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GENERAL KNOWLEDGE COMPENDIUM

FOR COMPETITIVE EXAMINATIONS HELD BY THE UNION AND
STATE PUBLIC SERVICE COMMISSIONS, THE STATE BANK
OF INDIA, THE LIFE INSURANCE CORPORATION ETC. ETC.

Fourth Revised and Enlarged Edition

KALYANI PUBLISHERS
LUDHIANA

PREFACE TO THE FIRST EDITION

The importance of General Knowledge can hardly be over-emphasized. As it stands today, General Knowledge embraces all spheres of human activity as also our inalienable relation with nature. As a study of the general development of human civilization, it forms an essential part of a young man's general education and training. It is necessary for him to have rudimentary knowledge of arts and culture, literature, philosophy, religion, history and politics and some training in enquiry and experiment. He should also be aware of the natural laws underlying the phenomenon of day-to-day life.

I have continually kept this consideration before me during the preparation of this volume. An attempt has been made in it to give a broad survey of the realms of art, literature and social and physical sciences as also the important happenings of our time. The scope of this work ranges from abbreviations to critical appreciation, from the theories and fundamentals to the realities of living and from the fantastic-looking, awe-inspiring subject of outer space to that of the minutest structure of the atom. It covers all aspects of General Knowledge and is designed to conform, as far as possible, to rigorous standards of accuracy and to the maximum coverage of the fascinating aspects of our living. Directed to the needs of the competitors and the general readers alike, it emphasizes information of contemporary interest as of essential past. While starting a new topic, I have tried to initiate the reader gradually into the subject and not before making it lively with an interesting background. The book is rounded off by an alphabetical Index, an innovation for the books on General Knowledge. The reader is advised to always consult the Index when he has to refer to the book selectively. A systematic study of the book would, however, be most rewarding.

This work is not without its obligations. I am indebted to Mr D.S. Mahendru for providing me necessary facilities in Kashmir where a major portion of this book was written.

While all efforts have been made to check and re-check the data and facts with the original sources, it is most likely that some errors might have crept into the book. I shall, therefore, be grateful if the readers bring them to my notice.

C. S. BEDI

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E R R A T A

Note : Readers are requested to carry out the following corrections in the first instance. Inconvenience caused is regretted.

| <i>Page and Place of Occurrence</i> | <i>For</i> | <i>Read</i> |
|--|---|------------------------------|
| 2, last but one line | Indian Standards Institute | Indian Standards Institution |
| 11, against I.S.I. | Indian Standards (or Statistical) Institute | Indian Standards Institution |
| 201, under Pant, Sumitran- andan | (1902-) | (1900-) |
| 342, under Neurosis, 3rd line | gratification | gratification |
| 387, under Q. Thick glass... 2nd line | rurface | surface |
| 409, last but one line of Ans. to the second Question. | Rhodesion | Rhodesian |
| 452, under Soviet Land Nehru Awards, second line | camprise | comprise |
| 453, third line from bottom | inagural | inaugural |
| 455, under The Object of Space Exploration, third line | univeres | universe |
| 468, under LATEST IN SPACE RESEARCH : | | |
| Second line | od | on |
| Fourth line | Esrth's | Earth's |
| Fifth line | later | later |
| 627, first line. | Bhotto | Bhutto |

CHAPTER 1

ABBREVIATIONS

Q. What do the following abbreviations stand for ?

(i) U.G.C. (ii) NATO (iii) ARC (iv) UNESCO (v) N.T.P. (vi) NEFA (Stenographers, 1970)

Ans. (i) University Grants Commission (ii) North Atlantic Treaty Organization (iii) Administrative Reforms Commission (iv) United Nations Educational, Scientific and Cultural Organization (v) Normal Temperature and Pressure (vi) North East Frontier Agency.

Q. What do the following abbreviations stand for ?

(i) F.R.C.S. (ii) C.S.I.R. (iii) I.C.B.M. (iv) B.B.C. (v) L.I.C. (vi) SEATO (vii) C.P.I. (viii) I.O.C. (ix) P.T.I. (x) A.R.C. (N.D.A. May, 1970)

Ans. (i) Fellow of the Royal College of Surgeons (ii) Council of Scientific and Industrial Research (iii) Inter Continental Ballistic Missile (iv) British Broadcasting Corporation (v) Life Insurance Corporation (vi) South East Asia Treaty Organization (vii) Communist Party of India (viii) Indian Oil Corporation (ix) Press Trust of India (x) Administrative Reforms Commission.

Q. What do the following abbreviations stand for ?

(i) U.P. (ii) N.E.F.A. (iii) U.S.A. (iv) U.N.O. and (v) U.S.S.R. (N.D.A. May, 1970)

Ans. (i) Uttar Pradesh (ii) North East Frontier Agency (iii) United States of America (iv) United Nations Organization and (v) Union of Soviet Socialist Republics.

Q. What do the following abbreviations stand for ?

(i) W.H.O. (ii) S.E.A.T.O. (iii) G.M.T. (iv) C.S.I.R. (v) G.C.M. (Engg. Ser. Electronics, 1970)

Ans. (i) World Health Organization (ii) South East Asia Treaty Organization (iii) Greenwich Mean Time (iv) Council of Scientific and Industrial Research (v) Greatest Common Measure.

Q. What do the following abbreviations stand for ?

(i) I.A.A.S. (ii) I.L.O. (iii) N.A.S.A. (iv) M.V.C. (v) O.N.G.C. (vi) P.O.W. (vii) S.E.A.T.O. (viii) U.S.A.I.D. (ix) Y.M.C.A. and (x) E.C.A.F.E. (I.M.A., May, 1970)

Ans. (i) Indian Audit and Accounts Service (ii) International Labour Organization (iii) National Aeronautics and Space Administration (USA) (iv) Maha Vir Chakra (v) Oil and Natural Gas Commission (vi) Prisoner of War (vii) South East Asia Treaty Organization (viii) United States Agency for International Development (ix) Young Men's Christian Association and (x) Economic Commission for Asia and Far East.

Q. What do the following abbreviations stand for ?

(i) SALT (ii) P.D.A. (iii) N.A.S.A. (iv) N.M.D.C. (v) T.N.T. (Indian Forest Service, 1970)

Ans. (i) Strategic Arms Limitation Talks (between the

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USA and USSR) (ii) Preventive Detention Act (iii) National Aeronautics and Space Administration (USA). (iv) National Minerals Development Corporation (India) (v) Trinitrotoluene.

Q. What do the following abbreviations stand for ?

(i) LSD (ii) DNA (iii) TNT (iv) ICBM (v) IDA
(*Engg. Ser. Exam., 1970*)

Ans. (i) d-lysergic acid diethylamide (a hallucinatory drug)
(ii) Deoxyribonucleic Acid (iii) trinitrotoluene (iv) inter-continental ballistic missile (v) International Development Association.

Q. What do the following abbreviations stand for ?

(i) B.K.D. (ii) D.M.K. (*Geologists, 1970*)

Ans. (i) Bhartiya Kranti Dal (an Indian Political Party)
(ii) Dravida Munnetra Kazhagam (the ruling party in Tamil Nadu).

Q. What do the following abbreviations stand for ?

(i) CENTO (ii) ECM (iii) FAO (iv) GATT (v) ILO
(vi) IMF (vii) OAS (viii) SEATO (ix) MCC (x) A.D.
(*I.N. July, 1970*)

Ans. (i) Central Treaty Organization (ii) European Common Market (iii) Food and Agriculture Organization (of UNO) (iv) General Agreement on Tariffs and Trade (v) International Labour Organization (of UNO) (vi) International Monetary Fund (U.N.O.) (vii) Organization of American States (viii) South East Asia Treaty Organization (ix) Marylebone Cricket Club (x) *Anno Domini*. (in the year of our Lord).

Q. What do the following abbreviations stand for ?

(i) A.D. (ii) B.S.F. (iii) I.S.T. (iv) N.S.C. (v) W.A.A.F.
(*Asstt. Gde., 1969*)

Ans. (i) *Anno Domini* (in the year of our Lord) (ii) Border Security Force (iii) Indian Standard Time (iv) National Service Corps (v) Women's Auxiliary Air Force.

Q. What do the following abbreviations stand for ?

(i) D.M.K. (ii) B.K.D. (iii) ANZUS (iv) OAU
(v) NATO (vi) A.D.B. (vii) NIBMAR (*I.N. Dec. 1969*)

Ans. (i) Dravida Munnetra Kazhagam (ii) Bhartiya Kranti Dal (iii) (The Defence and economic Pact among) Australia, New Zealand, United States of America (iv) Organization for African Unity (v) North Atlantic Treaty Organization (vi) Asian Development Bank (vii) No Independence Before Majority African Rule (regarding Rhodesia)

Q. What do the following abbreviations stand for ?

(i) B.B.C. (ii) C.I.D. (iii) N.M.D.C. (iv) F.A.O.
(v) I.P.C. (vi) I.S.I. (vii) E.C.A.F.E. (viii) N.A.T.O.
(ix) O.I.G.S. (x) CASTASIA (*S.C.R.A., 1969*)

Ans. (i) British Broadcasting Corporation (ii) Criminal Investigation Department (iii) National Minerals Development Corporation (iv) Food and Agriculture Organization (v) Indian Penal Code (vi) Indian Standards Institution (vii) Economic Commission for Asia and Far East (viii) North

ABBREVIATIONS

Atlantic Treaty Organization (ix) On India Government Service
(x) Conference on the Application of Science and Technology
to the Development of Asia.

Q. What do the following abbreviations stand for ?

- (i) E.C.A.F.E. (ii) U.N.C.T.A.D. (iii) G.A.T.T. (iv) I.Q.
(v) f.o.b. (Eng. Ser., 1969)

Ans. (i) Economic Commission for Asia and Far East
(ii) United Nations Conference on Trade and Development
(iii) General Agreement on Tariffs and Trade (iv) Intelligence quotient (v) free on board.

Q. What do the following abbreviations stand for ?

- (i) C.I.D. (ii) U.S.S.R. (iii) A.D.C. (iv) H.G. (v)
H.P. (vi) l.b.w. (I.M.A. Apr., 1969)

Ans. (i) Criminal Investigation Department (ii) Union
of Soviet Socialist Republics (iii) aide-de-camp (iv) Home
Guard (v) Himachal Pradesh ; horse power (vi) leg before
wicket.

Q. What do the following abbreviations stand for ?

- (i) F.R.C.S. (ii) C.S.I.R. (iii) G.M.I. (iv) R.P.M.
(v) H.A.L. (N.D.A. May, 1969)

Ans. (i) Fellow of the Royal College of Surgeons (ii)
Council of Scientific and Industrial Research (iii) Greenwich
mean time (iv) revolutions per minute (v) Hindustan Air-
craft Limited.

IMPORTANT ABBREVIATIONS

A

| | |
|------------|---|
| A. | (Referring to Cinema Pictures) Adult. |
| A.A. | anti-aircraft ; Automobile Association. |
| A.A.A. | Amateur Athletic Association. |
| A.A.F. | Auxiliary Air Force. |
| A.A.F.I. | Amateur Athletic Federation of India. |
| A.A.G. | Assistant Adjutant General. |
| A.A.Q.M.G. | Assistant Adjutant and Quartermaster General. |
| A.B.M. | Anti Ballistic Missile (s). |
| A.C. | Aircraftman ; alternating current ; Ashoka Chakra. |
| a/c | account |
| A.C.A. | Associate of the Institute of Chartered Accountants. |
| A.C.C. | Auxiliary Cadet Corps ; Associated Cement Companies. |
| A.C.I.S. | Associate of the Chartered Institute of Secretaries. |
| A.C.W. | aircraftwoman. |
| A.C.W.A. | Associate of the Institute of Cost and Works Accountants. |
| A.D. | Anno Domini (in the year of our Lord). |
| A.D.C. | Amateur Dramatic Club ; aide-de-camp. |
| Ad. (Ads.) | Advertisement (advertisements). |
| A.E.C. | Atomic Energy Commission. |

| | |
|-----------------|---|
| A.E.I. | Associated Electrical Industries. |
| A.F.A. | Amateur Football Association ; Assistant Financial Adviser. |
| A.F.A.S. | Associate of the Faculty of Architects and Surveyors. |
| A.G. | Adjutant General ; Accountant General ; Air gunner. |
| A.G.C.R. | Accountant General Central Revenue ; Advanced Gas Cooled Reactor. |
| A.G.F. | Asian Games Federation. |
| Air H.Q. | Air Headquarters. |
| Army H.Q. | Army Headquarters. |
| A.I. | Air India; Army Instruction (§). |
| A.I.A. | Associate of the Institute of Actuaries. |
| A.I.B. | Associate of the Institute of Bankers. |
| A.I.C.C. | All India Congress Committee. |
| A.I.D. | Agency for International Development (USA). |
| A.I.L. | Aeronautics India Limited. |
| A.I.N.E.C. | All India Newspaper Editors' Conference. |
| A.I.N.E.F. | All India Newspapers Employers Federation. |
| A.I.R. | All India Radio. |
| A.I.R.F. | All India Railwaymen's Federation. |
| A.I.R.O. | Army in India Reserve of Officers. |
| A.I.W.F.C. | All India Women's Food Council. |
| ALS | Anti-lymphocyte serum. |
| a.m. | <i>Anno Mundi</i> (in the year of the world); <i>ante meridiem</i> (before noon). |
| A.M..C. | Army Medical Corps. |
| A.M.I. Chem. E. | Associate Member of the Institute of Chemical Engineers. |
| A.M.I.C.E. | Associate Member of the Institute of Civil Engineers. |
| A.M.I.E.E. | Associate Member of the Institute of Electrical Engineers. |
| A.M.I. Mech. E. | Associate Member of the Institute of Mechanical Engineers. |
| A.M.S.E. | Associate Member of the Society of Engineers. |
| ANZUS | Australia, New Zealand, United States of America (Name of the pact among the three powers). |
| A.O. | Army Order (s). |
| A.O.C. | Army Ordnance Corps: Air Officer Commanding. |
| A.P. | Associated Press ; Andhra Pradesh. |
| A.Q.M.G. | Assistant Quartermaster General. |
| A.R.A. | Associate of the Royal Academy. |
| A.R.A.D. | Associate of the Royal Academy of Dancing. |
| A.R.A.M. | Associate of the Royal Academy of Music. |
| A.R.C.A. | Associate of the Royal College of Arts. |
| A.R.C.M. | Associate of the Royal College of Music. |
| A.R.C.O. | Associate of the Royal College of Organists. |

| | |
|------------|--|
| A.R.C.S. | Associate of the Royal College of Science. |
| A.R.I.C. | Associate of the Royal Institute of British Architects. |
| A.R.I.C. | Associate of the Royal Institute of Chemistry. |
| A.R.O. | Army Reserve of Officers ; Assistant Recruiting Officer. |
| A.R.P. | Air Raid Precautions. |
| A.S.C. | Army Service Corps. |
| A.S.E.A.N. | Association for South East Asian Nations. |
| A.S.P.A.C. | Asian and Pacific Council. |
| A.S.R.O.C. | Anti-Submarine Rocket Missile. |
| A.S.W. | anti-submarine warfare. |
| Asstt. | Assistant. |
| A.V.C. | Army Veterinary Corps. |
| A.V.M. | Air Vice Marshal. |

B

| | |
|----------|---|
| b. | born ; (in Cricket) bowled. |
| B.A. | Bachelor of Arts ; British Academy. |
| B.A.R.C. | Bhabha Atomic Research Centre. |
| B.b.c. | British Broadcasting Corporation. |
| B.C. | Before Christ. |
| B.C.G. | Bacillus Calmette Guerin (Anti-T.B. Vaccine). |
| B.C.L. | Bachelor of Civil Law. |
| B.Com. | Bachelor of Commerce. |
| B.D. | Bachelor of Divinity. |
| B.E. | Bachelor of Engineering. |
| B.Ed. | Bachelor of Education. |
| BENELUX | Belgium, Netherlands and Luxembourg. |
| b.f. | brought forward. |
| B.I.S. | Bank of International Settlement ; British Information Service. |
| B.M. | Bachelor of Medicine. |
| B.O.A.C. | British Overseas Airways Corporation. |
| Brig. | Brigadier. |
| B.S.A. | Birmingham Small Arms (Co.). |
| B.Sc. | Bachelor of Science. |

C

| | |
|----------|---|
| C. | Centum(— 100) ; Centigrade. |
| C.A. | Chartered Accountant. |
| C.&A.G. | Comptroller and Auditor General. |
| CACOM | Central American Common Market. |
| Caps. | capital letters. |
| Capt. | Captain. |
| C.A.R.E. | Cooperative for American Relief to Everywhere. |
| CASTASIA | Conference on the Application of Science and Technology to the Development of Asia. |
| c.&b. | caught and bowled. |
| C.B.E. | Commander of (the Order of) the British Empire. |

| | |
|-------------|---|
| C.B.I. | Central Bureau of Investigation. |
| C.B.W. | Chemical-Biological Warfare. |
| C.C. | Circuit Court ; Chief Commissioner ; Cricket club. |
| c.c. | cubic centimetre. |
| C.C.I. | Cricket Club of India. |
| C.C.S. | Casualty Clearing Station. |
| C.D. | Civil Defence. |
| C.D.P. | Community Development Programme. |
| C.D.S.* | Compulsory Deposit Scheme. |
| C.E. | civil engineer. |
| C.E.E.R.I | Central Electronics Engineering Research Institute (Pilani). |
| cent. | century. |
| CENTO | Central Treaty Organization. |
| cf. | confer (compare). |
| C.G.H.S. | Central Government Health Scheme. |
| C.G.S. | Chief of the General Staff. |
| C.I.A. | Central Intelligence Agency (USA). |
| C.I.D. | Criminal Investigation Department. |
| c.i.f. | cost, insurance and freight. |
| C.I.G.S. | Chief of the Imperial General Staff. |
| C-in-C. | Commander-in-Chief. |
| C.J. | Chief Justice. |
| Clar. | Clarendon (type). |
| cm. | Centimetre. |
| C.M.E.R.I. | Central Mechanical Engineering Research Institute. |
| C.N.D., CND | Campaign for Nuclear Disarmament. |
| C.O. | *Commanding Officer. |
| Co. | company. |
| c/o. | care of. |
| C.O.D. | Central Ordnance Depot ; Concise Oxford Dictionary. |
| Col. | Colonel. |
| col. | column. |
| COMECON | Council for Mutual Economic Assistance (East European Socialist Organization). |
| Co-op. | *Co-operative Society. |
| COSR | Committee on Reorganization of Scientific Research. |
| Coy. | Company. |
| c.p. | candle power. |
| C.P.I. | Communist Party of India. |
| Cpl. | Corporal. |
| C.R. | Central Railway ; Chakravarti Rajagopala- chari. |
| C.S.I.O. | Central Scientific Instruments Organization. |
| C.S.I.R. | Council of Scientific and Industrial Research. |
| cu., cub. | cubic. |
| cum. | cumulative. |

cwt. hundredweight.
C.W.P.C. Central Water and Power Commission.

D

D.A. Dearness Allowance ; Daily Allowance.
D.A.A.G. Deputy Assistant Adjutant General.
D.A.D.M.S. Deputy Assistant Director of Medical Services.
D.A.D.O.S. Deputy Assistant Director of Ordnance Services.
D.A.Q.M.G. Deputy Assistant Quartermaster General.
D.C. Direct current ; Deputy Commissioner.
D.C.L. Doctor of Civil Law.
D.C.M. Delhi Cloth and General Mills.
D.D. Doctor of Divinity.
D.D.S. Doctor of Dental Surgery.
D.D.T. Dichlor-diphenyl-trichloroethane.
dept. department.
D.F. direction finder.
D.F.C. Distinguished Flying Cross.
D.G. Director General.
D.I.G. Deputy Inspector General.
D.L.F. Development Loan Fund.
D.Lit. Doctor of Literature.
D.Litt. Doctor of Letters.
D.L.O. Dead Letter Office.
D.M. District Magistrate.
dm. decimetre.
D.M.I. Director of Military Intelligence.
DMK Dravida Munnetra Kazhagam.
D.N.A. Deoxyribonucleic acid.
do. ditto.
dol. dollar (s).
D.P. displaced person.
D.P.H. Diploma in Public Health.
D.Phil. (Ph.D.) Doctor of Philosophy.
D.P.I. Director of Public Instruction.
D.R. Dispatch rider.
Dr. Doctor.
D.Sc. Doctor of Science.
D.S.C. Distinguished Service Cross ; Defence Security Corps.
D.S.M. Distinguished Service Medal.
D.S.O. Distinguished Service Order.
D.Th. Doctor of Theology.
D.V. *Deo Volente* (God willing).
D.V.C. Damodar Valley Corporation.
dyn (am) dynamics.

E

E. & O.E. errors and omissions excepted.
E.C.A. Economic Co-operation Administration.
E.C.A.F.E. Economic Commission for Asia and Far East.
E.C.E. Economic Commission for Europe.

| | |
|-----------------|--|
| E.C.G. | electro-cardiogram. |
| E.C.M. | European Common Market. |
| ECOSOC | Economic and Social Council (of U.N.O.) |
| E.D.C. | European Defence Community |
| Edin. | Edinburgh |
| E.E.C. | European Economic Community. |
| E.F.T.Å. (Efta) | European Free Trade Association (Area). |
| e.g. | <i>exempli gratia</i> (for example). |
| E-in-C. | Engineer-in-Chief. |
| E.M.F. | electromotive force. |
| E.M.G. | Electromyograph. |
| E.M.U. | Extravchicular Mobility Unit. The equipment kit that the moonlanders took with them. |
| E.P.N.S. | Electroplated Nickel Silver. |
| E.R.P. | European Recovery Programme. |
| E.R.T.S. | Earth Resources Technology Satellite. |
| Esq. | Esquire |
| E.S.I.S. | Employees' State Insurance Scheme. |
| E.S.P. | Extra-sensory perception. |
| E.T.A. | estimated time of arrival. |
| ESSO (S.O.) | Standard Oils (formerly STANVAC). |
| E.V.R. | Electronic Video Recording. |

F

| | |
|------------|---|
| F.A. | Football Association |
| F.A.A. | Fleet Air Arm. |
| Fahr. | Fahrenheit. |
| F.A.I. | Federation Aeronautique International. |
| F.A.O. | Food and Agriculture Organization. |
| F.B.A. | Fellow of the British Academy. |
| F.B.I. | Federal Bureau of Investigation. |
| F.C.A. | Fellow of the Institute of Chartered Accountants. |
| F.C.I. | Food Corporation of India. |
| F.C.W.A. | Fellow of the Institute of Cost and Works Accountants. |
| F.I.A. | Fellow of the Institute of Actuaries. |
| F.I.B. | Fellow of the Institute of Bankers. |
| F.I.C.C.I. | Federation of Indian Chambers of Commerce and Industry. |
| F.L.O.S.Y. | Front for the Liberation of South Yemen. |
| F.M. | Field Marshal. |
| F.O. | Flying Officer ; Foreign Office. |
| f.o.b. | free on board. |
| f.o.r. | free on rail. |
| F.P.S. | Foot-Pound-Second (system). |
| F.R.A.S. | Fellow of the Royal Astronomical Society. |
| F.R.C.P. | Fellow of the Royal College of Physicians. |
| F.R.C.S. | Fellow of the Royal College of Surgeons. |
| F.R.G.S. | Fellow of the Royal Geographical Society. |
| F.R.I.B.A. | Fellow of the Royal Institute of British Architects. |

| | |
|------------|---|
| F.R.I.C.S. | Fellow of the Royal Institute of Chartered Surveyors. |
| F.R.P.S. | Fellow of the Royal Photographic Society. |
| F.R.S. | Fellow of the Royal Society. |
| F.R.S.A. | Fellow of the Royal Society of Arts. |
| F.R.S.L. | Fellow of the Royal Society of Literature. |
| F.R.S.S. | Fellow of the Royal Statistical Society. |
| F.S.S. | Fellow of the Statistical Society. |
| ft. | foot ; feet. |
| F.Z.S. | Fellow of the Zoological Society. |

G

| | |
|----------|--|
| gal. | gallon (s). |
| G.A.T.T. | General Agreement on Tariffs and Trade. |
| G.B. | Great Britain. |
| G.B.S. | George Bernard Shaw. |
| G.C. | George Cross. |
| G.C.F. | greatest common factor. |
| G.C.M. | greatest common measure ; general court-martial. |
| Gen | General. |
| G.D.R. | German Democratic Republic (East Germany) |
| G.H.Q. | General Headquarters. |
| G.I. | government issue (an enlisted American soldier). |
| G.M.T. | Greenwich mean time. |
| G.O.C. | General Officer Commanding. |
| G.P.O. | General Post Office. |
| G.S.O. | General Staff Officer. |

H

| | |
|------------|--|
| H.A.A. | heavy anti-aircraft. |
| H.A.L. | Hindustan Aircraft Ltd. |
| H.C.F. | highest common factor. |
| H.E. | His (Her) Excellency ; high explosive. |
| H.E.L. | Heavy Electricals Limited. |
| H.H. | His (Her) Highness. |
| H.M.S. | His (Her) Majesty's Ship. |
| H.M.T. | Hindustan Machine Tools. |
| H.O. | Head Office. |
| Hon. | honorary. |
| H.P. | Himachal Pradesh. |
| h.p. | horse power. |
| H.Q. | headquarters. |
| H.R.H. | His Royal Highness. |
| hr. (hrs.) | hour (hours) |

I

| | |
|----------|--|
| I.A. | Indian Airlines ; Indian Army. |
| I.A.E.A. | International Atomic Energy Agency. |
| I.A.F. | Indian Air Force. |
| I.A.A.S. | Indian Audit and Accounts Service. |
| I.A.S. | Indian Administrative Service. |
| I.A.T.A. | International Air Transport Association. |

| | |
|--------------|--|
| I.B.M. | International Business Machines (Management). |
| I.B.R.D. | International Bank for Reconstruction and Development. |
| <i>ibid.</i> | <i>ibidem</i> (in the same place). |
| i/c. | incharge. |
| I.C.A.O. | International Civil Aviation Organisation. |
| I.C.A.R. | Indian Council of Agricultural Research. |
| I.C.B.M. | inter-continental ballistic missile. |
| I.C.C. | International Control Commission (of Indo-China). |
| I.C.F.T.U. | International Confederation of Free Trade Unions. |
| I.C.I. | Imperial Chemical Industries. |
| I.C.I.C.I. | Industrial Credit and Investment Corporation of India. |
| I.C.J. | International Court of Justice. |
| I.C.S. | Indian Civil Service. |
| I.C.W.A. | Indian Council of World Affairs. |
| I.C.Y. | International Co-operation Year. |
| I.D.A. | International Development Association. |
| I.D.B.I. | Industrial Development Bank of India. |
| i.e. | <i>id est</i> (that is) |
| I.E.N.S. | Indian and Eastern Newspapers Society. |
| I.F.A. | Indian Football Association. |
| I.F.C. | International (or Industrial) Finance Corporation. |
| I.F.S. | Indian Foreign Service. |
| I.F.W.J. | Indian Federation of Working Journalists. |
| I.F.T.U. | International Federation of Trade Unions. |
| I.G.Y. | International Geophysical Year. |
| I.I.S.Co. | Indian Iron and Steel Company. |
| I.I.T. | Indian Institute of Technology. |
| I.L.O. | International Labour Organisation. |
| I.M.F. | International Monetary Fund. |
| I.M.S. | Indian Medical Service. |
| I.N. | Indian Navy. |
| in. | inch. |
| Inc. | Incorporated. |
| I.N.A. | Indian National Army. |
| INCOSPAR | Indian National Committee on Space Research. |
| I.N.S. | Indian Naval Ship. |
| INTELSAT | International Telecommunication Satellite Consortium (formed in 1964). |
| I.N.V.R. | Indian Naval Volunteer Reserve. |
| I.N.R.W.F. | Indian National Railway Workers Federation. |
| I.N.T.U.C. | Indian National Trade Union Congress. |
| I.O.C. | Indian Oil Corporation. |
| I.O.M. | Indian Order of Merit ; Isle of Man. |
| I.O.U. | I owe you. |
| I.P. | Indian Police |

| | |
|----------|--|
| I.P.C. | Indian Penal Code. |
| I.P.S. | Indian Police Service. |
| I.P.Y. | India Productivity Year. |
| I.Q. | intelligence quotient. |
| I.R.B.M. | intermediate-range ballistic missile (of the U.S.A.) |
| I.R.O. | International Refugee Organisation. |
| I.S.C. | International Supervisory Commission. |
| ISCON | Indian Steel Construction Company. |
| I.S.E. | Indian Service of Engineers. |
| I.S.I. | Indian Standards (or Statistical) Institution |
| I.S.O. | International Standardization Organization. |
| I.S.R. | Indian State Railways. |
| I.S.R.O. | Indian Space Research Organization. |
| ital. | italic (type of printing). |
| I.T.D.C. | Indian Tourism Development Corporation. |
| I.T.I. | Indian Telephone Industries ; Industrial Training Institute. |
| I.T.O. | International Trade Organisation ; Income Tax Officer. |
| I.T.U. | International Telecommunication Union. |
| I.T.U.C. | Indian Trade Union Congress. |
| I.U.C.D. | Intra-uterine contraceptive device. |

J

| | |
|-----------|--|
| J.A. (G.) | Judge Advocate (General). |
| J.A.L. | Japan Air Lines. |
| J.C.O. | Junior Commissioned Officer. |
| J.P. | Justice of the Peace ; Jaya Prakash Narayan. |

K

| | |
|-------------|--|
| K.A.N.U. | Kenya African National Union. |
| K.B.E. | Knight of the British Empire. |
| K.C. | King's College ; King's Counsel. |
| K.C.B. | Knight Commander of the Bath. |
| K.C.I.E. | Knight Commander (of the Order) of Indian Empire. |
| K.C.M.G. | Knight Commander (of the Order) of St. Michael & St. George. |
| K.C.S.I. | Knight Commander of the Star of India |
| K.C.V.O. | Knight Commander of the (Royal) Victorian Order. |
| K.G. | Knight (of the Order) of the Garter ; Kindergarten. |
| kg. (kilo) | Kilogram. |
| K.K.K. | Ku Klux Klan (Anti Negro secret society). |
| km. | kilometre. |
| Knt. (Kt.) | Knight. |
| Kw. | kilowatt. |
| K.M.T. | Kuomintang (Chinese Nationalist Party) |
| K.O. | knock-out. |
| K.R. (Q.R.) | King's Regulations (Queen's Regulations). |
| K.T. | Knight (of the Order) of the Thistle. |

L

| | |
|--------------------|--|
| L.A.A. | light anti-aircraft. |
| lab. (labs) | laboratory (laboratories). |
| L.A.C. | Leading Aircraftman. |
| L.A.F.T.A. | Latin American Free Trade Association. |
| LASER | Light Amplification by Stimulated Emission of Radiation (A U.S. invention). |
| lb. | <i>libra</i> (e) [pound (s) in weight]. |
| l.b.w. | leg before wicket. |
| l.c. | <i>loco citato</i> (lower case of print.) |
| L.C.M. | lowest common multiple. |
| L. Cpl. | Lance Corporal (An Air Force rank) |
| L.D.S. | Licentiate in Dental Surgery. |
| L.G. | Life Guards. |
| Lib. | Liberal (a member of the Liberal Party of England). |
| Lieut. (Col.) Gen. | Lieutenant (Colonel) (General). |
| Lit. Hum. | <i>literae humaniores</i> (An Oxford Degree). |
| Litt. D. | <i>literarum doctor</i> (Doctor of Literature). |
| L.I.C. | Life Insurance Corporation (of India). |
| L.L.B. | Bachelor of Laws (<i>legum baccalaureus</i>). |
| L.L.D. | Doctor of Laws (<i>legum doctor</i>). |
| L.L.M. | Master of Laws. |
| L.M.S. | Licentiate in Medicine and Surgery. |
| long. | longitude. |
| L.R.C.P. | Licentiate of the Royal College of Physicians. |
| L.R.C.S. | Licentiate of the Royal College of Surgeons. |
| L.R.L. | Lunar Receiving Laboratory (wherein were quarantined the Apollo XI astronauts after their return from Moon). |
| L.S.D. | d-lysergic acid diethylamide (a hallucinatory drug). |
| L.T.A. | Lawn Tennis Association. |
| Lt. (Col.) (Gen.) | Lieutenant (Colonel) (General). |
| Lt. Cdr. | Lieutenant Commander (a Navy rank). |
| Ltd. | Limited. |

M

| | |
|-------------|---|
| M.A. | Master of Arts. |
| Maj. (Gen.) | Major (General). |
| M.B. | Bachelor of Medicine (<i>medicinae baccalaureus</i>). |
| M.B.B.S. | Bachelor of Medicine and Bachelor of Surgery. |
| M.B.E. | Member (of the Order) of British Empire. |
| M.C. | Military Cross ; medical certificate. |
| M.C.C. | Marylebone Cricket Club. |
| M.D. | Doctor of Medicine (<i>medicine doctor</i>). |
| memo. | memorandum. |
| met. | meteorology (meteorological). |
| mg. | milligram (s). |
| M.I. | Military Intelligence. |
| M.I.C.E. | Member of the Institution of Civil Engineers. |

| | |
|--------------|--|
| misc. | miscellaneous. |
| mk. | mark (coin). |
| M.K.S. | Metre, Kilogram, Second (system). |
| M.L.A. | Member of the Legislative Assembly. |
| M.L.C. | Member of the Legislative Council. |
| M.L.F. | multilateral (nuclear) force. |
| M.M. | Military Medal. |
| mm. | millimetre (s). |
| Mme. | Madame. |
| M.M.T.C. | Minerals and Metals Trading Corporation (India). |
| M.O. | Medical Officer • money order. |
| M.P. | Member of Parliament ; Madhya Pradesh. |
| m.p. (g) (h) | miles per (gallon) (hour). |
| Mr. | Mister. |
| M.R.A. | Moral Re-Armament. |
| M.R.A.S. | Member of the Royal Asiatic Society. |
| M.R.B.M. | medium-range ballistic missile. |
| M.R.C.P. | Member of the Royal College of Physicians. |
| M.R.C.S. | Member of the Royal College of Surgeons. |
| M.R.C.V.S. | Member of the Royal College of Veterinary Surgeons. |
| MS. (MSS) | manuscript (manuscripts). |
| M. Sc. | Master of Science. |
| M.T. | mechanical transport. |
| Mt. | Mount. |
| M.T.B. | Motor Torpedo-Boat. |
| M.V.C. | Maha Vir Chakra. |
| N | |
| N.A.F.E.N. | Near and Far East News (Agency). |
| N.A.S.A. | National Aeronautics and Space Administration (U.S.A.) |
| N.A.T.C. | North Atlantic Treaty Council. |
| N.A.T.O. | North Atlantic Treaty Organization. |
| N.B. | <i>nota bene</i> (note well). |
| N.B.A. | National Boxing Association. |
| N.C.C. | National Cadet Corps. |
| N.C.D.C. | National Cooperative Development Corporation. |
| N.C.E.R.T. | National Council of Educational Research and Training. |
| N.C.O. | Non-Commissioned Officer. |
| N.D.A. | National Defence Academy. |
| N.D.F. | National Defence Fund. |
| N.D.C. | National Defence Cour...l. |
| N.D.S. | National Discipline Scheme. |
| N.E.F.A. | North East Frontier Agency. |
| N.E.F.R. | North East Frontier Railway. |
| N.E.R. | North Eastern Railway. |
| N.E.S. | National Extension Service. |
| N.F.I.R. | National Federation of Indian Railwaymen. |
| N.L.F. | National Liberation Front (South Vietnam). |

| | |
|----------|--|
| N.M.D.C. | National Minerals Development Corporation (India). |
| N.O.I.C. | Naval Officer-in-Charge. |
| N.P.C. | National Productivity Council. |
| N.S.I.C. | National Small Industries Corporation (India). |
| N.T.P. | normal temperature and pressure. |
| N.R. | Northern Railway. |
| N.R.A. | National Recovery Administration. |
| N.S.C. | National Service Corps. |
| N.S.O. | National Sports Organisation. |
| N.V.F. | National Volunteer Force. |

O

| | |
|-------------|--|
| O. & M. | Organization and Methods. |
| O.A.S. | Organization of American States ; on active service ; Secret Army Organization (of Algeria). |
| O.A.U. | Organization for African Unity (formed in 1963). |
| O.B.E. | Officer (of the Order) of the British Empire. |
| O.C. | Officer Commanding. |
| O.E.C.D. | Organization for European Co-operation and Development (formerly O.E.E.C.). |
| O.E.E.C. | Organization for European Economic Cooperation. |
| O.G.L. | open general licence. |
| O.H.M.S. | On His (Her) Majesty's Service. |
| O.I.G.S. | On India Government Service. |
| O.I.L. | Oil India Limited. |
| O.K. | all correct. |
| O.N.G.C. | Oil and Natural Gas Commission. |
| O.P. (o.p.) | observation post. |
| op. cit. | <i>opere citato</i> (in the work quoted). |
| O.R. | Other Ranks. |
| O.T.C. | Officers Training Corps. |
| O.T.S. | Officers Training School. |
| Oxon. | Oxford University. |
| oz. | ounce (s). |

P

| | |
|--------------|--|
| P.A. | Press Association ; Personal Assistant. |
| p.a. | per annum. |
| P.A.Y.E. | pay as you earn. |
| P.C. | postcard. |
| p.c. | per cent. |
| P.E.N. | (International Association of) Poets, Playwrights, Editors, Essayists and Novelists. |
| P.G. | paying guest. |
| Ph.B., Ph.D. | <i>philosophiae baccalaureus</i> , <i>philosophiae doctor</i> (Bachelor of Philosophy ; Doctor of Philosophy). |
| P.K.I. | Partai Komunis Indonesia (Communist Party of Indonesia). |

| | |
|----------|---|
| P.L.O. | Palestine Liberation Organization. |
| P.M. | Prime Minister ; Provost Marshal ; Postmaster. |
| p.m. | <i>post meridiem</i> (after midday). |
| P.M.G. | Postmaster General. |
| p.m.h. | production per man-hour. |
| P.M.O. | Principal Medical Officer. |
| P.O. | Post Office ; postal order. |
| P.O.S.B. | Post Office Savings Bank. |
| P.O.W. | prisoner (s) of war. |
| P.P.S. | Principal Private Secretary. |
| P.R.O. | Public Relations Officer. |
| P.S. | Private Secretary ; postscript ; Personal Secretary. |
| P.S.P. | Praja Socialist Party. |
| P.T. | physical training. |
| Pte. | Private (American soldier). |
| P.T.I. | Press Trust of India ; Physical Training Instructor. |
| P.T.O. | please turn over. |
| P.V.C | Param Vir Chakra. |
| P.W.D. | Public Works Department. |

Q

| | |
|--------|--|
| Q.C. | Queen's Counsel. |
| Q.E.D. | <i>quod erat demonstrandum</i> (that which was to be proved). |
| Q.E.F. | <i>quod erat faciendum</i> (which was to be done). |
| Q.M.G. | Quartermaster General. |

R

| | |
|----------|--|
| R.A.A.F. | Royal Australian Air Force. |
| R.A.C. | Royal Armoured Corps. |
| RADAR | Radio Detection and Ranging. |
| R.B.I. | Reserve Bank of India. |
| R.C.C. | re-inforced cement concrete. |
| R.C.D. | Regional Cooperation for Development (among Turkey, Iran and Pakistan). |
| R.C.P. | Royal College of Physicians. |
| R.C.S. | Royal College of Surgeons. |
| R.I. | rigorous imprisonment. |
| R.M.S. | Railway Mail Service. |
| R.N.A. | Ribonucleic acids. |
| R.N.V.R. | Royal Naval Volunteer Reserve. |
| R.O. | Recruiting Officer. |
| R.P.M. | revolutions per minute. |
| Regt. | regiment. |
| Rev. | Reverend. |
| R.S.V.P. | <i>repondez s'il vous plait</i> (reply if you please). |
| R.S.S. | Rashtriya Swayam Sewak Sangh. |
| R.T.C. | Round Table Conference. |
| R.T.O. | Railway Transport Officer. |

S

| | |
|--------|------------------------|
| S.A.A. | small arms ammunition. |
|--------|------------------------|

| | |
|--------------------|---|
| S.A.C.M.E. * | Supreme Allied Commander for Middle East. |
| SALT | Strategic Arms Limitation Talks (between USA and USSR) |
| S.B.f. | State Bank of India. |
| S.C. | Supreme Court ; Security Council. |
| S.C.R.A. | Special Class Railway Apprentices. |
| S.D.O. * | Sub Divisional Officer. |
| S.D.R. | Special Drawing Rights. |
| S.E.A.T.O. (Seato) | South East Asia Treaty Organization. |
| Sec. | Secretary. |
| sec. | second ; section. |
| Sectt. | Secretariat. |
| Sergt. (Sgt.) | Sergeant. |
| S.H.A.P.E. | Supreme Headquarters Allied Powers in Europe. |
| S.J.A.A. | St. John Ambulance Association. |
| SLAR | Side-Looking Airborne Radar. |
| S. Lat. | South latitude. |
| S.L.B.M. | Sea-Launched Ballistic Missile. |
| S.O. | Staff Officer. |
| Soc. | Socialist ; society. |
| S.O.C.O.N.Y. | Standard Oil Company of New York. |
| Sol. Gen. | Solicitor General. |
| SONAR (sonar) | Sound Navigation and Ranging. |
| S.O.S. | save our souls. (Radio code-signal of extreme distress ; any despairing cry or action). |
| S.P. | Superintendent of Police; starting price(betting) |
| S.P.C.A. | Society for the Prevention of Cruelty to Animals. |
| S.P.C.K. | Society for Promoting Christian Knowledge. |
| Sqdn. Ldr. | Squadron Leader. |
| S.R. | Southern Railway. |
| S.R.A.M. | Short Range Attack Missile. |
| S.R.C. | States Reorganization Commission. |
| s.s. | Steamship. |
| S.S. | <i>Schutzstaffel</i> (Nazi Police Force). |
| S.S.A.B. | Soldiers, Sailors and Airmen's Board. |
| S.S.B. | Services Selection Board. |
| S.S.P. | Samyukta Socialist Party. |
| STANVAC | Standard Vacuum Oil Company. |
| S.T.C. | State Trading Corporation. |
| S.U.N.F.E.D. | Special United Nations Fund for Economic Development. |
| Supt. (Supdt). | Superintendent. |
| Surg. | surgeon ; surgery. |
| S.V.P. | saturated vapour pressure. |
| T | |
| T.A. | Territorial Army ; travelling allowance. |
| T.A.N.U. | Tanganyika African National Union. |
| T.B. | <i>tubercle bacillus</i> ; tuberculosis. |
| T.B.D. | torpedo boat destroyer. |
| T.C. | Trusteeship Council (of UNO). |

| | |
|----------------|--|
| T.E.L.C.O. | Tata Engineering and Locomotive Company. |
| TERLS | Thumba Equatorial Rocket Launching Station. |
| T.I.F.R. | Tata Institute of Fundamental Research. |
| T.I.S.C.O. | Tata Iron and Steel Company. |
| T.M.O. | Telegraphic Money Order. |
| T.N.T. | trinitrotoluene (highly explosive). |
| T.O. | turn over (P.T.O.—please turn over). |
| T.T. | teetotaller ; table tennis. |
| T.T.E. | Travelling Ticket Examiner. |
| T.U. (C.) | Trade Union (Congress). |
| T.V. (TV). | television. |
| T.V.A. | Tennessee Valley Authority. |
| T.W.A. | Trans World Airlines. |
| U | |
| U.A.R. | United Arab Republic. |
| U.D.C. | Upper Division Clerk. |
| U.F.O. | unidentified flying objects. |
| U.G.C. | University Grants Commission. |
| U.K. | United Kingdom. |
| U.N. | United Nations. |
| U.N.A.E.C. | United Nations Atomic Energy Commission. |
| U.N.C.I.P. | United Nations Commission on India and Pakistan. |
| UNCITRAL | United Nations Commission on International Trade and Law. |
| UNCTAD | United Nations Conference on Trade and Development. |
| U.N.D.P. | United Nations Development Programme. |
| U.N.E.C.A.F.E. | United Nations Economic Commission for Asia and Far East. |
| U.N.E.D.A. | United Nations Economic Development Administration. |
| U.N.E.F. | United Nations Emergency Force (Raised for supervisory duties in UAR after the Suez aggression). |
| U.N.E.S.C.O. | United Nations Educational, Scientific and Cultural Organization. |
| U.N.I. | United News of India. |
| U.N.I.C.E.F. | United Nations (International) Children's (Emergency) Fund. |
| U.N.I.P.O.M. | United Nations, India Pakistan Observation Mission. |
| U.N.M.O.G.I.P. | United Nations Military Observers Group for India and Pakistan. |
| U.N.O. | United Nations Organization. |
| U.N.O.C. | United Nations Operations in Congo. |
| U.N.R.R.A. | United Nations Relief and Rehabilitation Administration. |
| U.N.T.A.D. | United Nations Trade and Development (Organization). |
| U.P. | Uttar Pradesh. |
| U.P.S.C. | Union Public Service Commission. |

| | |
|------------|---|
| U.S.A. | United States of America. |
| U.S.A.F. | United States Air Force. |
| U.S.A.I.D. | United States Agency for International Development. |
| U.S.I. | United Services Institution. |
| U.S.I.S. | United States Information Service. |
| U.S.S.R. | Union of Soviet Socialist Republics. |

V

| | |
|--------------|-----------------------------------|
| V.C. | Victoria Cross ; Vice Chancellor. |
| V.D. | venercal disease. |
| V.H.F. (VHF) | very high frequency. |
| Vr.C. | Vir Chakra. |
| V.I.P. | very important person. |
| viz. | <i>videlicet</i> (namely). |
| vol. | volume. |
| V.P.P. | value payable parcel. |
| V.T.O.L. | vertical take off and landing. |

W

| | |
|------------|--|
| W.A.A.C. | Women's Army Auxiliary Corps. |
| W.A.C. (I) | Women's Auxiliary Corps (India). |
| W.A.A.F. | Women's Auxiliary Air Force. |
| W.A.A.C. | Women's Auxiliary Air Corps. |
| W.A.N.A. | (Countries of) West Asia and North Africa. |
| w.f. | wrong fount. |
| W.E.U. | Western European Union. |
| W.F.T.U. | World Federation of Trade Unions. |
| W.H.O. | World Health Organisation. |
| W.M.O. | World Meteorological organization. |
| W.O. | Warrant Officer ; War Office |
| W.P.B. | waste paper basket. |
| W.T.U.C. | World Trade Union Congress. |
| W/T | wireless telegraphy, telephony. |
| W.V.S. | Women's Voluntary Service. |

X

| | |
|------|------------|
| Xmas | Christmas. |
|------|------------|

Y

| | |
|----------|--------------------------------------|
| Y.H.A. | Youth Hostel Association. |
| Y.M.C.A. | Young Men's Christian Association. |
| Y.W.C.A. | Young Women's Christian Association. |

Z

| | |
|----------|---|
| Z.A.P.U. | Zimbabwe African People's Union. |
| Zerlina | Zero Energy Reactor for Lattice Investigation and New Assemblies. (A research reactor set up at Trombay near Bombay). |
| Z.E.T.A | Zero Energy Thermo-nuclear Assembly (or Apparatus). |
| Z.S. | Zoological Society. |

CHAPTER 2

WORDS AND PHRASES CURRENT IN THE ENGLISH LANGUAGE

N.B. The bracketed letter indicates the language in which the word or phrase originally occurs. Thus *L* stands for Latin, *I* for Italian, *G* for Greek and *F* for French.

Ab extra (*L*) From outside. (*Roorkee, 1957*)

Ab initio (*L*) From the beginning.

Ab intra (*L*) From within.

A bon matche (*F*) A good bargain, cheap deal.

Ab origine (*L*) From the beginning.

Ad finem (*L*) To the end.

Ad hoc (*L*) Arranged for this purpose ; for this special object.

Ad infinitum (*L*) Without limit ; to infinity ; for ever.

(*Clk. Gde., 1942*)

Ad interim (*L*) For the meantime ; in the meanwhile.

(*I.A.S., 1947*)

Ad libitum (*L*) at pleasure ; to any extent.

(*I.A.S., 1969 ; I.N., 1948*)

Ad nauseam (*L*) To a disgusting extent.

Ad referendum (*L*) For consideration

Ad valorem (*L*) According to the value.

Agent provocateur (*F*) A person employed for subversive activity.

A la carte (*F*) By the bill of fare.

A' la mode, a la mode (*F*) in the fashion; according to fashion.

Alma Mater (*L*) Bounteous mother ; Name used for universities and schools.

(*I.F.S., 1970*)

Amour patri (*F*) Love of country.

Anno Christi (*L*) In the year of Christ.

Anno Domini (*L*) In the year of our Lord.

Ante meridiem (*L*) Before mid-day.

(*I.N., 1948*)

Apropos (*F*) To the point ; in respect of.

(*U.P.S.C. Asstt. Gde., 1942*)

Au revoir (*F*) (Good-bye) till we meet again.

(*I.A.S. 1949*)

Avant coueur (*F*) one who rides, drives before ; 'advance-guard.

Avant Garde (*F*) The pioneers or innovators.

Avion (*F*) Aeroplane.

Bas bleu (*F*) Bluestocking ; a woman of literary taste

Beaux esprits (*Bel esprits*) Men of wit (Man of wit).

Belles-lettres (*F*) Studies, writings (of a purely literary kind).

Bon ami (*F*) Good friend.

Bona fide (*s*) (*L*) Genuine; sincere; good intentions. (*I.A.S., 1961*)

Bonhomie (*F*) Geniality.

Bourgeois (**Bourgeoisie**) (*F*) (Member) of the middle class ; Middle Class.

Carte blanche (*F*) Blank paper ; full discretionary power.

(*I.A.S., 1962*)

Cause belli (**2**) That which causes or justifies war.

Cause celebra (*F*) Law suit that excites much attention.

Causerie (*F*) An article of conversational nature on literary subjects.

Cause sine qua non (*L*) An indispensable cause.

Cliche (*F*) Hackneyed literary phrase. (*I.A.S., 1954*)

Coup (*F*) A successful stroke or political move.

„ **d'etat** Violent and sudden change in government. (*I.A.S., 1955, 1963; Stenos., 1968*)

„ **de grace** Finishing stroke.

„ **de main** Sudden vigorous attack.

Cui bono? (*L*) To what purpose.

Dame d'honneur (*F*) Maid of honour.

De facto (*L*) in fact ; actually.

De jure (*L*) Rightful ; by right ; legal ; by law.

De novo (*L*) Anew ; afresh. (*Roorkee, 1957*)

Deo gratias (*L*) Thanks to God.

Deo volente (*L*) God willing.

De profundis (*L*) From the depths of (sorrow).

Divide et impera (*L*) Divide and rule.

Dramatis personae (*L*) The characters in a drama.

Emigre (*P*) emigrant ; emigre government.

Enfant terrible (*F*) Child who asks awkward questions.

En route (*J*) On the way. (*I.I.T., 1958*)

Esprit de corps (*F*) The spirit of collective body (e.g. regiment) ; regard for honour and interests of the organization one belongs to.

Et cetera (*I*) And the rest ; and so on. (*Stenos., 1968*)

Et tu Brute (*L*) And thou also Brutus ?

Exempli gratia (e.g.) (*L*) By way of example.

Ex officio (*L*) By virtue of office.

Ex parte (*L*) On one side only ; in the interest of one side only.

Ex post facto (*L*) After the deed is done ; acting retrospectively.

Ex tempore (*L*) Without preparation ; off-hand. (*N.D.A., 1970*)

Fait accompli (*L*) An established fact.

Fidei defensor (*I*) Defender of faith.

Gloria patri (*L*) Glory be to the Father.

Grand merci (*F*) Many thanks.

Homme d'esprit (*F*) A genius ; a man of wit.

Humanum est errare (*L*) To err is human.

Ibidem (*L*) In the same book, chapter, passage.

Id est (i.e.) (*L*) That is.

Il penseroso (*I*) The pensive man.

In camera (*L*) In the judge's private room ; not in open court. (*N.D.A., 1970*)

In memoriam (*L*) In the memory of.

In nubibus (*L*) Vague ; in the clouds.

In status quo (**status quo ante**) (*L*) in the same state as formerly.

Inter alia (*L*) Amongst other things.

Inter se (*L*) Between themselves.

In toto (*L*) In entirety ; entirely.

Ipso facto (*L*) By the fact itself.

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Laissez-faire (*F*) Let act ; Government's abstention from interference with individual action, especially in commerce.

L' Allegro (*I*) The merry man ; the happy man.

Locus standi (*L*) Recognised position.

Magnum opus (*L*) A literary masterpiece. (*I.A.S.*, 1949)

Maitre d' hotel (*F*) A house-master.

Mala fide (*L*) in bad faith.

Modus operandi (*L*) Mode of working ; manner of working.

Modus vivendi (*L*) Mode of living ; manner of living. (*I.A.S.*, 1949)

Mutatis mutandis (*L*) With necessary changes. (*I.I.T.*, 1958)

Noblesse oblige (*F*) { Rank imposes obligation.
Privilege entails responsibility. (*I.A.S.*, 1949)

Nom de plume (*F*) Writer's pseudonym. (*Stenos.*, 1968)

Nota bene (*N.B.*) (*L*) Mark well.

Obiter dictum (*L*) Incidental remark ; something said in passing.

Par excellence (*F*) By way of excellence. (*Roorkee*, 1957, *I.A.S.*, 1949)

Pari passu (*L*) With equal pace ; simultaneously and equally.

Per (*L*)

annum By the year ; annually.

capita For each person ; individually.

centum By the hundred.

diem By the day ; daily.

se By itself ; in itself.

Persona grata (*L*) Acceptable person ; person in favour.

Persona non grata (*L*) Unacceptable person. (*I.A.S.*, 1956)

Prima facie (*L*) On the very first view. (*N.D.A.*, 1970 ; *I.I.T.*, 1958)

Primo (*L*) In the first place.

Pro bono publico (*L*) For the public good.

Proximo (*L*) Next month ; of next month.

Prudens futuri (*L*) Prudent about the future.

Quid pro quo (*L*) An equivalent ; compensation, a return made.

Quod erat demonstrandum (*Q.E.D.*) (*L*) Which was to be proved or demonstrated.

Raison d'être (*F*) Purpose that justifies a thing's existence.

Savoir vivre (*F*) Good breeding ; refined manners.

Sine die (*L*) Without a day being fixed. (*N.D.A.*, *E.S.E.*, 1970)

Sine qua non (*L*) Something indispensable.

Status quo (*L*) The status in which ; the former status.

Sub judice (*L*) Under judicial consideration (*W.J.S.*, 1951)

Sub silentio (*L*) In silence ; privately. (*N.D.A.*, 1970)

Suggestio falsi (*L*) Suggestive of falsehood ; positive misrepresentation. (*W.J.S.*, 1951)

Tour de force (*F*) A feat of skill ; a great achievement.

Ultra vires (*L*) Beyond one's power or jurisdiction. (*I.A.S.*, 1952, 1961)

Veni, vidi, vice (*L*) I came, I saw, I conquered.

Versus (*L*) Against.

Via (*L*) Through ; by way of.

Via media (*L*) A middle course ; a compromise.

Vice (*L*) In place of.

Vice versa (*L*) The other way round ; the order being reversed.

Videlicet (*L*) Namely.

Vis-a-vis (*F*) Opposite to.

Viva voce (*L*) Oral test.

Volte-face (*F*) Complete change in front (in argument or in politics).

Vox populi, vox Dei (*L*) The voice of people is the voice of God.

CHAPTER 3

INVENTIONS AND DISCOVERIES

Q. Who discovered or invented the following ?

(i) Television (ii) penicillin (iii) cause of malaria (iv) X-rays
(*Stenographers*, 1970)

Ans. (i) J.L. Baird (ii) Sir Alexander Fleming and Florey (iii) Ronald Ross (iv) W.C. Rontgen.

Q. Give the name of the inventor and the year of the following inventions ?

(i) Printing Press (ii) Telegraph (iii) Radio (iv) Aeroplane (v) Tank (war).
(*Cent. Inf. Ser.*, 1970)

Ans. (i) Johann Guttenberg ; 1436 (ii) Cooke and Wheatstone ; patented in 1836 (iii) Marconi ; 1895 (iv) Wright Brothers ; 1903 (v) Sir Ernest Swinton ; 1914.

Q. (a) What are the important discoveries or inventions associated with the following persons ?

(i) William Harvey (ii) Madame Curie (iii) Samuel Morse (iv) James Dewar (v) Graham Bell (vi) Joseph Lister.

(b) Name the scientists associated with the following ?

(i) Law of heredity (ii) Laws of electrolysis (iii) Laws of gravitation (iv) Laws of multiple proportions

(*N.D.A.*, May, 1970)

Ans. (a) (i) Blood circulation (ii) Radium (iii) Telegraphic Code (iv) Thermos flask (v) Telephone (vi) Antiseptics and Antiseptic Surgery.

(b) (i) G. Mendel (ii) Michael Faraday (iii) Isaac Newton (iv) John Dalton

Q. (a) Mention the discoveries or inventions associated with the following names : -

(i) Newton (ii) James Watt (iii) Darwin (iv) Cartwright (v) Otto Hahn.

(b) Name the first man or men who :—

(i) reached the North Pole (ii) climbed Mount Everest (iii) revolved in an orbit around the earth (iv) set foot on the moon and (v) reached the South Pole.
(*I.E.&S.S.* 1970)

Ans. (a) (i) Laws of Gravitation (ii) Steam engine (iii) Origin of Species; Theory of Evolution (iv) Powerloom (v) Atom bomb or Uranium fission.

(b) (i) Robert Peary (ii) Tenzing and Hillary (iii) Yuri Gagarin (iv) Neil Armstrong and Edwin Aldrin (v) Ronald Amundsen.

Q. With what discovery or invention are the following names associated ?

(i) Mendeleeff (ii) Mendel (iii) Archimedes (iv) James Watt (v) Darwin.
(*Engg. Services Electronics*, 1970)

Ans. (i) Periodic Law (ii) Laws of heredity (iii) Principle of lever and of specific gravity (iv) Steam engine (v) Origin of Species ; Theory of Evolution.

Q. State the field of specialization or one outstanding contribution of each of the following scientists listed in Group A, selecting your answer from Group B.

Group A

(i) Antoine Henri Becquerel (ii) Johannes Kepler (iii) Vikram Sarabhai (iv) Johann Gregor Mendel (v) Edward Jenner and (vi) Dimitri Mendeleev.

Group B

Barometer, microscope, radioactivity, astrophysics, planetary motion, cosmic rays, anaesthetics, laws of heredity, periodic table, vaccination and bacteriology.

(I.M.A., May, 1970)

Ans. (i) radioactivity (ii) planetary motion (iii) cosmic rays (iv) laws of heredity (v) vaccination and (vi) periodic table.

Q. Mention the outstanding contribution of :—

(i) Dimitri Mendeleev (ii) Otto Hahn (iii) Isaac Newton (iv) Gregory Mendel and (v) Max Planck.

(Indian Forest Service, 1970)

Ans. (i) Periodic Law (ii) Nuclear fission or atom bomb (iii) Laws of Gravitation (iv) Laws of Heredity (v) Quantum Theory.

Q. Who discovered the following ?—

(i) Origin of species (ii) laws of heredity (iii) the cause of malaria (iv) law of gravitation and (v) the periodic classification of elements.

(I.E.S., 1969)

Ans. (i) Charles Darwin (ii) G.J. Mendel (iii) Ronald Ross (iv) Isaac Newton (v) D.I. Mendeleev.

Q. Who invented or discovered the following ?

(i) Blood circulation (ii) dynamite (iii) atomic theory (iv) telephone and (v) Diesel engine.

(Stenographers, 1969)

Ans. (i) William Harvey (ii) Alfred Nobel (iii) John Dalton (iv) Graham Bell (v) Rudolf Diesel.

Q. What discoveries or inventions do you associate with the following names ?

(i) E.O. Lawrence (ii) Mendel (iii) Kepler (iv) Nobel (v) Rontgen.

(S.C.R.A., 1969)

Ans. (i) cyclotron (ii) laws of heredity (iii) laws of planetary motion (iv) dynamite (v) X-ray.

Q. Who discovered or invented the following ?

(i) X-rays (ii) Radioactivity (iii) Oxygen (iv) Phonograph (v) Theory of Relativity.

(Engg. Ser., 1969)

Ans. (i) Rontgen (ii) Henry Becquerel (iii) J. Priestley (iv) T.A. Edison (v) A. Einstein.

Q. Give one contribution to science made by each of the following scientists listed in Group A, selecting your answer from Group B :—

Group A

(i) Kepler (ii) Sir Alexander Fleming (iii) Lord Lister (iv) James Watt (v) Otto Hahn and (vi) Priestley.

Group B

(i) Power of steam (ii) nuclear fission (iii) vaccination for smallpox (iv) laws of motion (v) discovery of oxygen (vi) laws

of planetary motion (vii) cosmic rays (viii) television (ix) discovery of penicillin and (x) antiseptic surgery.

(I.M.A., Apr., 1969)

Ans. (i) laws of planetary motion (ii) penicillin (iii) antiseptic surgery (iv) power of steam (v) nuclear fission (vi) discovery of oxygen.

Q Who discovered or invented the following ?

(i) X-rays (ii) Crescograph (iii) Electrons (iv) Dynamite (v) Law of multiple proportions (vi) Logarithms (vii) Mechanical equivalent of heat (viii) Telephone (ix) Television (x) radio-activity.

(N.D.A., May, 1969)

Ans. (i) Rontgen (ii) J.C. Bose (iii) N.H.D. Bohr (iv) Alfred Nobel (v) John Dalton (vi) John Napier (vii) J.P. Joule (viii) Graham Bell (ix) J.L. Baird (x) Henry Becquerel.

Q. Fill up the blanks in the following by an appropriate name or word : -

(i) _____ established the theory of the nuclear atom. (ii) Becquerel discovered the phenomenon of _____. (iii) Alexander Fleming was the first to produce _____. (iv) Madame Curie isolated _____ from pitch-blende. (v) _____ was in Apollo-8 which circled round the _____. (I.N., July, 1969)

Ans. (i) John Dalton (ii) radioactivity (iii) penicillin (iv) radium (v) Frank Borman; Moon.

SIGNIFICANT INVENTIONS AND DISCOVERIES

Some Famous Discoveries

| <i>Discovery</i> | <i>The Discoverer</i> |
|---|--|
| America (1492) | Christopher Columbus. |
| Newfoundland (1498) | John Cabot. |
| Sea-route to India via the Cape of Good Hope (1498) | Vasco da Gama, a Portuguese national. |
| Brazil (1500) | Pedro Alvaraz Cabral, a Portuguese. |
| New Zealand and Tasmania (1642). | Tasman, a Dutch national. |
| Solar System (1540) | Copernicus, a Pole. (I.A.S., 1966) |
| Planetary Motion (1600) | Kepler, a German. |
| Hawaiian Islands (1770) | Captain Cook, an English sailor. |
| Suez Canal (designed and constructed) (1869) | Ferdinand de Lesseps, a French engineer. |
| North Pole (1909) | Robert Edwin Peary, an American. |
| South Pole (1911) | Amundsen, a national of Norway. |
| (1958) | Edmund Hillary and Dr. Vivian |
| (reached by land route) | Ernest Fuchs. |

CHEMISTRY AND PHYSICS

| | |
|---------------------------|-------------------------------|
| Aniline dyes (rosaniline) | A. W. Hofmann. |
| Artificial radioactivity | Madam Joliot and Irene Curie. |
| Atom Bomb | Otto Hahn. |
| Atomic structure | Bohr and Rutherford. |

| | |
|--|--|
| Atomic theory | John Dalton. (<i>I.A.S., 1962</i>) |
| Circumference of the earth | Jean Picard. |
| Cosmic rays | R.A. Millikan. |
| Crescograph | J.C. Bose. |
| Crystal Dynamics | C.V. Raman. |
| Current electricity | Volta. |
| Discovery of Oxygen | J. Priestley. |
| Discovery of electrons | J.J. Thomson. |
| Discovery of Nitrogen | Daniel Rutherford. |
| Dynamite | Alfred Nobel. |
| Electron Theory | N.H.D. Bohr. |
| Heavy hydrogen | H. C. Urey. |
| Heavy water | H. C. Urey. |
| Hydrogen | Cavendish. |
| { Induction of electric current } | Michael Faraday. |
| { Laws of electrolysis } | |
| Iron lung | Dr. Phillip Drinker. |
| Incandescent lamp (bulb) | Edison. |
| Laughing gas (nitric oxide) | Priestley. |
| Laws of electrical resistance | Ohm. |
| Laws of gravitation | Newton. |
| Laws of heredity | G. Mendel. |
| Laws of natural selection | Charles Darwin. |
| Lightning conductor | Benjamin Franklin. |
| Logarithms | John Napier. |
| Measurement of electrical energy | J.P. Joule. |
| Mechanical equivalent of heat | J.P. Joule. |
| Motor car (manufacture) | Henry Ford. |
| Neon gas | Ramsay. |
| Nylon | W.H. Carothers. |
| Periodic Law | D.I. Mendeleev (Mendeleef). |
| Photo-electric cell and - phosphoroscope | A.E. Becquerel. |
| Photography (daguerreotype) | L.J.M. Daguerre. |
| Photography (coloured) | Gabriel Lippman. (<i>I.A.S., 1964</i>) |
| Photography (Roll films) | George Eastman. |
| Principle of lever and of specific gravity | Archimedes. |
| Psycho-analysis | Sigmund Freud. |
| Quantum theory (in thermodynamics) | Max Planck. |
| Radioactivity of uranium | Henry Becquerel. |
| Radium | Madame Curie. (<i>I.A.S., 1962</i>) |
| Raman Effect | C.V. Raman. (<i>P.C.S., 1964</i>) |
| Sputniks | Russian scientists. |
| Synthetic dye | W.H. Perkin. |
| Telegraph Code | Morse. (<i>P.C.S., 1964</i>) |
| Theory of Evolution | Darwin. |
| Theory of Relativity | A. Einstein (<i>N.D.A., 1966</i>) |
| Telephone | Graham Bell. |

T.N.T.
 Uranium Fission
 Vitamins
 Vitamin D.
 Wave theory of light
 Wireless Telegraphy
 X-Ray

Wilbrand.
 Otto Hahn, Bohr, Fermi.
 R.C. Funk.
 F.G. Hopkins.
 Christiaan Huygens.
 Marconi. (*I.A.S., 1935*)
 W.C. Rontgen. (*I.A.S., 1948*)

MACHINES AND TOOLS

Aeroplane
 Alcohol Thermometer
 Automobile
 Balloon
 Barometer
 Bicycle
 Bulb, electric
 Calculating Machine
 Camera
 Diesel engine
 Dynamo
 Electromagnetic waves
 Free light
 Fountain pen
 Gas engine
 Gramophone
 Helicopter
 Hovercraft
 Jet propulsion
 Laser
 Lenses
 Life Boat
 Linotype
 Logarithms
 Loop
 Machine gun
 Megaphone
 Mercury thermometer
 Microphone
 Microscope
 Motor Car
 Motion pictures
 Phosphoroscope
 Phonograph
 Phototherapy (Finsen Light)
 Powerloom
 Printing Press
 Printing for the blind
 Radar
 Radio Telephone
 Radio Transmitter
 Railway engine
 Reflecting telescope
 Revolver

Wright Brothers.
 Fahrenheit.
 Daimler.
 Montgolfier.
 Torricelli. (*S.C.R.A., 1966*)
 Macmillan
 Edison.
 Pascal.
 Zeiss.
 Rudolf Diesel.
 Michael Faraday.
 James Clerk Maxwell.
 N.R. Finsen.
 Waterman.
 Daimler.
 T.A. Edison. (*I.A.S., 1948*)
 Brequet.
 Cockrell.
 Frank Whittle.
 T.H. Maiman.
 Zeiss.
 Henry Greathead.
 Mergenthaler.
 John Napier.
 Dr. Jack Li, pes.
 Gatling.
 Edison.
 Fahrenheit.
 Berliner.
 Galileo and Jansen.
 Carl Benz and G. Daimler.
 Edison.
 A.E. Becquerel.
 Edison.
 N.R. Finsen.
 Cartwright.
 Johann Gutenberg.
 Braille. (*S.O., 1965*)
 Sir Robert Watson Watt.
 Lee De Forest.
 Alexanderson
 Stephenson.
 Newton.
 Colt.

| | |
|------------------------|---------------------------------------|
| Safety lamp for miners | Humphry Davy. (<i>I.M.A.</i> , 1947) |
| Safety razor | Gillette. |
| Seismograph | Robert Mallet. |
| Sewing machine | Elias Howe. |
| Steamboat | Fulton. |
| Spinning Jenny | James Hargreaves. |
| Steam engine | James Watt. |
| Submarine | C.J. Drebbel and David Bushnell. |
| Talkies | Lee De Forest. |
| Tank (weapon of war) | Swinton. |
| Tape-recorder | Valdemar Poulsen. |
| Telephone | Graham Bell. |
| Teleprinter | F.G. Creed and others. |
| Telescope | Galileo. |
| Television | J.L. Baird. |
| Thermos flask | Dewar. |
| Torpedo | Robert Whitehead. |
| Transistor | W. Shockley. |
| Typewriter | Sholes. |
| Tyre, pneumatic | Dunlop. |
| Under-sea photography | Edgerton. |

MEDICINE

| | |
|--|---|
| Anti polio vaccine | Jonas E. Salk. (<i>S.O.</i> , 1964) |
| Antiseptic surgery | Lord Lister. (<i>I.M.S.</i> , 1969) |
| Bacteria | Lecuwenhoek. |
| Beriberi, cause of | Christian Eijkman. |
| Blood circulation | William Harvey. |
| Blood transfusion (human blood groups) | Karl Landsteiner. |
| Chloroform | Sir James Young Simpson. |
| D.D.T. | Paul Muller. |
| Gene, creation of artificial | Dr. Hargobind Khorana. |
| Germ theory (hydrophobia, anti- toxin, anti-rabies treatment) | Louis Pasteur. |
| Heart Transplant Surgery | Christian Barnard. |
| Heredity, Laws of | Gregor Johann Mendel. |
| Homoeopathy | Samuel Hahnemann. |
| Insulin | F.G. Banting. (<i>I.A.S.</i> , 1948) |
| Kala-azar fever | U.N. Brahmchari. (<i>I.A.S.</i> , 1963) |
| L.S.D. | A. Hofmann. |
| Malaria parasites | Ronald Ross. (<i>I.A.S.</i> , 1961) |
| Penicillin | Sir Alexander Fleming and Florey. |
| Saccharin | C. Fahlberg and Ira Remsen. |
| Stethoscope | Laennec. |
| Streptomycin | S. Waksman. (<i>S.O.</i> , 1964) |
| Sulpha drugs (use of prontosil) | G. Domagk. |
| Vaccination | Edward Jenner. (<i>I.A.S.</i> , 1962) |
| Yellow fever, cause of | Walter Reed. |

MISCELLANEOUS

| | |
|--|-----------------------------|
| Books for the blind | Louis Braille. (S.O., 1965) |
| Boy Scouts movement | Baden Powell. (U K) |
| Kindergarten system of education for children | Froebel. |
| Montessori System | Maria Montessori. |
| Nursing | Florence Nightingale. |
| Penny postage system | Sir Rowland Hill. |
| Playing cards | Jacques Gringonneur. |
| Population Theory | Malthus. |
| Red Cross | Henri Dumant. |
| Shorthand | Sir Isaac Pitman. |

CHAPTER 4

PRIDE PLACES, PSEUDONYMS, TRADE NAMES, ETC.

Q. (a) Give the real names against each of the following :
(i) Netaji (ii) Lion of Punjab (iii) Badshah Khan (iv) Dark Continent and (v) Land of Midnight Sun.

(b) With what articles are the following associated ?

(i) Allwyn (ii) Bata (iii) Dalda (iv) Eveready and (v) Lifebuoy
(Clks. Gdc. Exam., 1970).

Ans. (a) (i) Subhash Chandra Bose (ii) Maharaja Ranjit Singh (iii) Khan Abdul Ghaffar Khan (iv) Africa (v) Norway

(b) (i) refrigerators (ii) shoes (iii) vegetable cooking oil (iv) torches and torch cells (v) toilet soap.

Q. Who were/are known popularly by the following names ?

(i) Duce (ii) Frontier Gandhi (iii) Lokmanya (iv) Punjab Keshari (v) Netaji
(Cent. Info. Ser., 1970).

Ans. (i) Benito Mussolini (ii) Khan Abdul Ghaffar Khan (iii) Balgangadhar Tilak (iv) Lala Lajpat Rai (v) Subhash Chandra Bose.

Q. Fill in the blank places in the following sentences : —

(i) The largest planet is... .. (ii) The place of highest rainfall in India is... .. (iii) The hottest planet of the solar system is... .. (iv) Bile is formed in... .. (v) Goitre is an enlargement of... .. glands (vi) Fishes breathe through... ..
(N.D.A. May, 1970).

Ans. (i) Jupiter (ii) Cherrapunji (Assam) (iii) Mercury (iv) Liver (v) Thyroid (vi) Gills.

Q. What places do the following represent?

(i) Sugar bowl of the world (ii) Key of the Mediterranean (iii) Land of midnight sun (iv) Roof of the world (v) Land of the rising sun.
(N.D.A. May, 1970).

Ans. (i) Cuba (ii) Gibraltar (iii) Norway (iv) The Pamirs (v) Japan.

Q. Name the following :

(i) The largest desert (ii) Planet nearest to the sun (iii) The largest peninsula (iv) The highest country (v) The largest bird
(Engg. Services Electronics, 1970).

(i) Sahara (Africa) (ii) Mercury (iii) Arabia (iv) Tibet (v) Ostrich.

Q. Name the persons who were popularly known as :

(i) Grand Old Man of India (ii) Lady of the Lamp (iii) Punjab Kesari (iv) Netaji and (v) Der Fuehrer (I.M.A., May, 1970)

Ans. (i) Dadabhai Naoroji (ii) Florence Nightingale (iii) Lala Lajpat Rai (iv) Subhash Chandra Bose and (v) Hitler.

Q. Give the name of each of the following :

(i) Longest railway platform in India (ii) Longest railway (iii) Tallest tower (iv) Largest planetary body (v) Longest wall.
(S.C.R.A., 1969)

Ans. (i) Sonepur (N.E.R.) (ii) Trans Siberian Railway (from Riga to Vladivostok in USSR) (iii) Eiffel Tower (Paris) (iv) Jupiter (v) The Great Wall of China.

Q. (a) Give the real name against each of the following :

(i) Gurudev (ii) Lokmanya (iii) Land of the Rising Sun (iv) Gift of the Nile.

(b) With what articles are the following associated specially ?

(i) Lipton (ii) Firestone (iii) Favre-Leuba (iv) Murphy (v) Lambretta. (*Clerks Gde., 1969*).

Ans. (a) (i) Rabindra Nath Tagore (ii) Bal Ganga Dhar Tilak (iii) Japan (iv) Egypt.

(b) (i) Tea (ii) Rubber tyres and tubes (iii) Watches (iv) Radios and transistors (v) Motor scooters.

Q. Which countries/cities are represented by the following epithets ?

(i) Roof of the World (ii) Queen of the Adriatic (iii) Gate of Tears (iv) Island Continent and (v) Land of the Midnight Sun. (*N.D.A., May 1969*)

Ans. (i) The Pamirs (Central Asia) (ii) Venice (Italy) (iii) Strait of Bab-el-Mandeb (iv) Australia (v) Norway.

Highest, largest, biggest and smallest in the World.

| | |
|--------------------------|--|
| Largest Continent | Asia (Area: 17.3 million sq. miles). |
| Largest Island | Greenland (Area : 840,000 sq. miles). Lying in the Arctic Ocean between Canada (W) and Iceland (E). |
| Largest Peninsula | Arabia. |
| Largest Country | U.S.S.R. (Area 8.57 million sq. miles). |
| Largest Ocean | Pacific (Area : 70 million sq. miles). |
| Largest Inland Sea | Mediterranean Sea (Area : 1.145 million sq. miles). |
| Largest Coral Formation | The Great Barrier Reef (about 1250 miles long) in the Coral Sea near the coast of Queensland, Australia. |
| Largest Glaciers | Found in Greenland and in Arctic and Antarctic Oceans. |
| Largest Fresh Water Lake | Lake Superior (U.S.A.); covers 31,820 sq. miles. |
| Largest Salt Water Lake | Caspian Sea (U.S.S.R.); covers 163,800 sq. miles. It is 92 ft. below ocean level. |
| Largest Artificial Lake | Lake Mead of Hoover Dam (Formerly called Boulder Dam) in U.S.A. |
| Largest Archipelago | Indonesia. It comprises Java, Sumatra, Bali, Celebes, Moluccas and thousands of other Islands. |

| | |
|---|---|
| Largest Swimming Channel | British Channel. |
| Largest River (in volume) | Amazon (S. America) |
| Largest Delta | Sunderbans (Bengal) |
| Largest Bridge | Oakland Bridge (San Francisco) |
| Largest Desert | Sahara (Africa) |
| Largest Desert (Asia) | Gobi (Mongolia) |
| Largest City (area) | London (Area : 693 sq. miles) |
| Largest City (population) | Tokyo (Pop. about 11 million) |
| Largest Volcano | Mauna Loa (Hawaii). Its diameter is 12,400 ft. |
| Largest Office building | Pentagon, Washington (Head-quarters of the U.S. Defence Forces). |
| Largest Bell | The Great Bell (Tsar Kolokol) of Moscow (193 tons) |
| Largest Thoroughfare (or Longest Street) | Broadway (New York, U.S.A.) (150 miles long). |
| Largest Planet | Jupiter (Diameter : 88,700 miles, eleven times that of the Earth). |
| Largest Zoo | Kruger National Park, South Africa. |
| Longest River System | Mississippi—Missouri (U.S.A.) About 5,000 miles long. |
| Longest Single River | Nile ; 4160 miles long. |
| Longest Mountain System | Andes (South America); over 4,000 miles long. |
| Longest Wall | The Great Wall of China. (1500 miles long). |
| Longest Bridge | Verrazona-Narrows (New York). |
| Longest Railway Bridge | Lower Zambesi (Africa). |
| Longest Railway Platform | Storvik (Sweden) -2,470 ft. long. |
| Longest non-stop train | The Flying Scotsman. |
| Longest Ship Canal | St. Lawrence Seaway (U.S.A. — Canada). |
| Longest Dam | Hirakud Dam (India) |
| Longest Bailey Suspension Bridge | Rang Rang Gorge (Sikkim). |
| Longest Corridor | Rameshwaram Temple's Corridor (India). |
| Longest Railway | Trans Siberian Railway (4,350 miles long) connecting Riga with Vladivostok (U.S.S.R.) |
| Longest Railway Tunnel | East Finchley—Morden (London) underground railway tunnel. |
| Longest Road Tunnel | Mont Blanc Tunnel (French-Italian border). |
| Longest living tree | Sequoias of California (5,000 years). |
| Highest Mountain | Mount Everest (Nepal (29,000 ft.)) |
| Highest Mountain System | Himalayas. |
| Highest Lake | Titicaca Lake (12,590 ft. above sea level). |

| | |
|--|---|
| Highest Town | Wenchuan (Tibet)—16,732 ft. above sea level. |
| Highest inactive Volcano | Chimborazo (Central Ecuador) ; 20,577 ft. above sea level. |
| Highest Country | Tibet. |
| Highest Dam | Nurek (U.S.S.R.)— 978 ft. high. |
| Highest Canal | (Canal under construction) in Ladakh at an altitude of 11,000 ft. Expected to cost Rs. 11.3 lakh, it will irrigate 1,200 acres of land. |
| Highest Tower | Eiffel Tower (Paris)-984½ ft. high. |
| Highest Statue | Statue of Liberty, New York, U.S.A. |
| Highest Building | Palace of Soviets (Moscow). |
| Highest Railway Station | Morococha (Peru) (16,000 ft. high). |
| Highest Active Volcano | Guallatiri (Chile) 19,882 ft. |
| Highest Waterfall | Angel (Venezuela). |
| Deepest place (Ocean) | In the Pacific off the Mindanao Island (37,782 ft) |
| Deepest Lake | Baikal (U.S.S.R) (5,710 ft deep). |
| Biggest Irrigation Scheme | Lloyd Barrage Sukkur (Pakistan) |
| Biggest Passenger ship | Queen Elizabeth (U.K.). |
| Biggest Park | Yellowstone National Park (USA) (2.2 million acres in area) |
| Biggest Palace | Vatican Palace. |
| Biggest Museum | The American Museum of Natural History |
| Biggest Library | U.S.CongressLibrary, Washington. |
| Biggest Dome | Gol Gumbaz (Bijapur, Mysore). |
| Smallest Continent | Australia (2.97 million sq. miles) |
| First air mail (of the world) | At Allahabad in 1911 |
| First airwoman | Madam Tibe (French) |
| First man to fly the English Channel in a heavier than air machine | Louis Bleriot (French ; in 1909) |
| Oldest clock | In the Church at Notre Dame (14th Century). |
| Fastest flying insect | (American) deer fly (about 800 miles per hour). |
| Lowest body of water | Dead Sea (Palestine), 1,300 ft. below the Mediterranean Sea. |
| Coldest Region | Siberia. |
| Shortest Railway | Vatican City Railway (¾ mile long) |
| Country with largest population | China |
| Country with largest voting electorate (a democracy) | India. 251 million people were eligible to vote in the 1967 elections. |
| Largest Planet | Jupiter (Diameter : 88,700 miles, eleven times that of the Earth) |

| | |
|---------------------------------|--|
| Smallest Planet | Mercury |
| Planet nearest to Sun | Mercury (36 million miles away from the Sun) |
| Planet farthest from Sun | Pluto (3,666 million miles from the Sun). |
| Brightest Star | Sirius (also called the 'Dog Star') |
| Nearest Star to Earth | Alpha Centauri (in the Centaur Constellation. It is about 25 million miles away from Earth) |
| Rainiest Place | Mt. Waialeale (Hawaii)—472 inches annually. |

Highest, Largest, Biggest and Smallest in India

| | |
|---|---|
| Highest Peak | Nanda Devi (26,000 ft. approx) |
| Highest Waterfall | Jog Waterfalls in Mysore. |
| Highest Gateway | Buland Darwaza (Fatehpur Sikri) in Uttar Pradesh |
| Highest Literacy (among States). | (in) Kerala (46.8 per cent) |
| Highest Tower | Qutab Minar, Delhi. |
| Highest Straight Gravity Dam. | Bhakra Dam (Punjab) |
| Largest populated city | Calcutta (Pop. approx. 5.5 million). |
| Largest Lake | Wular Lake, Kashmir. |
| Largest State (in area) | Madhya Pradesh. |
| Largest State (population) | Uttar Pradesh |
| Largest Museum | The Indian Museum, Calcutta. |
| Largest Zoo | The Zoological Gardens, Calcutta. |
| Largest Forest State | Assam. |
| Largest Delta | Sunderbans Delta (Bengal) |
| Largest Cave Temple | Ellora, Maharashtra State |
| Largest Span Bridge | Howrah Bridge |
| Largest Dome | Gol Gumbaz (Bijapur, Mysore) |
| Largest Animal Fair | Sonepur Fair (Bihar) |
| Largest Mosque | Jama Masjid (Delhi) |
| Largest artificial Lake | Gobind Sagar (Bhakra) |
| Largest Desert | Thar |
| Longest River | Brahmaputra |
| Longest Railway Platform | Sonepur (N.E.R.) |
| Longest Road Bridge | Sone Bridge (Bihar) |
| Longest Corridor | Rameshwaram Temple Corridor (4,000 ft.) |
| Longest Tunnel | Jawahar Tunnel, Jammu and Kashmir |
| Longest Dam | Hirakud Dam |
| Longest Road | Grand Trunk Road |
| Longest Railway Bridge | Sone Bridge (Bihar) |
| Wettest Place | Cherrapunji (Assam) |
| Densest populated State | Delhi (1,793 persons per sq. kilometre). |

Smallest State (Area and population)

Nagaland

The Largest and Smallest among Animals/Birds

Largest land animal

Elephant (African)

Largest Mammal

Blue Whale

Largest animal of the cat tribe

Lion

Largest Sea Animal

Whale

Largest flightless bird

Ostrich

Largest bird of prey

Condor (of the Andes)

Largest Sea Bird

Albatross

Largest Anthropoid

Gorilla

Smallest Bird

Humming Bird (Cuba)

Fastest Bird

Swift

Fastest animal

Cheetah

Tallest animal

Giraffe

Longest lived creature

Blue Whale (Approx. 500 years)

Most intelligent animal

Chimpanzee

Wingless (flightless) Bird

Kiwi

Reptile whose tail is easily broken off

Lizard

Reptile that changes its colours.

Chameleon

Bird that never builds a nest

Cuckoo

Geographical Surnames

Bengal's Sorrow

Damodar River

Blue Mountains

Nilgiris (S. India)

City of Palaces

Calcutta

China's Sorrow

Hwang Ho

City of seven hills

Rome

City of Skyscrapers

New York

Cockpit of Europe

Belgium

Dark Continent

Africa

Empire City

New York

Eternal City

Rome

Forbidden City

Lhasa

Gift of the Nile

Egypt

Gateway of India

Bombay

Gateway of Tears

Strait of Bab-el-Mandeb

Granite City

Aberdeen (Scotland)

Holy Land

Jerusalem (Israel-Jordan)

Hermit Kingdom

Korea

Island Continent

Australia

Island of Cloves

Zanzibar

Key to Mediterranean

Gibraltar

Land of the Midnight Sun

Norway

Land of Rising Sun

Japan

Land of Morning Calm

Korea

Land of Maple Leaf

Canada

Land of perpetual greenness

Natal

Land of a million elephants

Laos

Land of white elephants

Siam (Thailand)

Land of Thunderbolt
Land of Five Rivers
Pillars of Hercules

Playground of Europe
Queen of the Adriatic
Rose-pink City
Roof of the World
Sickman of Europe

Sugar Bowl of the World
Windy City
White Man's Grave

Bhutan
The Punjab
Straits of Gibraltar. In fact, it is the Rock of Gibraltar on one side and the Mount Abyla on the African Coast opposite on the other that were known to the ancients as pillars of Hercules.

Switzerland
Venice (Italy)
Jaipur (Rajasthan)
The Pamirs (Central Asia)
Turkey. This surname is no longer valid.

Cuba
Chicago (U.S.A.)
Guinea (West Coast of Africa)

Some Famous World Personalities and their Short Names/Nicknames/Pseudonyms

Andhra Kesari (Lion of Andhra)
Apostle of Free Trade
Aya Rams, Gaya Rams

Bapu
Bard of Avon
C.R.
Desh Bandhu
Father of English Poetry
Feuhrer
Flying Dutchwoman
Flying Finn
Flying Sikh
G.I. (Government Issue)
Grand Old Man of Britain
Grand Old Man of India
Great Commoner
Gurudev

Ike

Iron Duke
Jawan
John Bull

T. Prakasam
Richard Cobden
The pseudonym, coined by former Home Minister Chavan for the defectors of Haryana and other States who changed their political loyalties frequently for power.

Mahatma Gandhi
Shakespeare (N.D.A., 1964)
Chakravarti Rajagopalachari
C.R. Dass
Chaucer
Hitler
Fanny Blankers-koen
Pavvo Nurmi
Milkha Singh
An American Soldier
W.E. Gladstone
Dadabhai Naoroji
The Younger Pitt
Rabindra Nath Tagore

(N.D.A., 1964)

General (later President of U.S.A.) Eisenhower.
Duke of Wellington
Indian Soldier
Personification of England or of the English people. He is Usually depicted as a stout, upright man, in a low-crowned

| | |
|---|---|
| J. P. | hat, tail coat, breeches and riding boots. The Name was originated by John Arbuthnot. Jai Prakash Narain, Sarvodaya • leader |
| Lady of the Lamp | Florence Nightingale |
| Lal, Bal, Pal | Lala Lajpat Rai, Bal Ganga Dhar Tilak and Bipin Chander Pal |
| Lion of the Punjab (Sher-e-Punjab) | Maharaja Ranjit Singh |
| Lokmanya | Bal Ganga Dhar Tilak |
| Man of Destiny | Napoleon |
| Maid of Orleans | Joan of Arc |
| Maiden Queen | Queen Elizabeth I |
| Man of Blood and Iron (The Iron Man of Germany) | Bismarck |
| Man of Iron (India) | Sardar Vallabh Bhai Patel |
| Mark Twain | Pen-name of Samuel Langhorne Clemens |
| Netaji | (Meaning leader) Subhash Chandra Bose (N.D.A. 1964) |
| Nightingale of India | Mrs. Sarojini Naidu |
| Punjab Kesari | Lala Lajpat Rai |
| Shastriji | Prime Minister Lal Bahadur Shastri |
| Sparrow | (The pseudonym assumed during the Indo-Pak fighting of 1965 by) Major General Rajindra Singh, now retired. |
| T.I.K. | T.T. Krishnamachari (A former Finance Minister of India.) |
| Vizzy | Maharajkumar of Vizianagram. |
| Yankee | This word was generally used in the American Civil War to describe Northerners. At present, it is employed in relation to any American but it is a derisive term. • |

Some Trade Names and their Associations

| | |
|------------------|---|
| Agfa | Cameras, photo goods |
| Allwyn | Refrigerators, steel cabinets etc. |
| Alert | Blades |
| Ambassador | Cars |
| Amul | Baby food, milk, ghee (S.C.R.A., 1969) |
| Aspro | (A remedy for) pains and fever |
| Atlas | Bicycle |
| Austin (England) | Cars |
| Bata | Shoes (N.D.A., 1968) |
| Benzytol | Germ killer |
| Binaca | Tooth Pastes and brushes |
| Binny | Cotton textiles |

| | |
|-------------------------|--|
| Black Bird | Fountain pens |
| Black and White | Cigarettes and whisky |
| Bournvita | A tonic drink |
| Brasso | Brass polish |
| Brooke Bond | Tea (N.D.A., 1968) |
| Bru | Coffee |
| Brylcream | Hair cream |
| B.S.A. | Guns, motor cycles, cycles |
| Burmah Shell | Petroleum and its products |
| Bursfane | Burmah Shell gas for cooking |
| Cadbury | Chocolates and sweets |
| Caltex | Petroleum |
| Capstan | Cigarettes |
| Chevrolet | Cars |
| Cinthol | Soap, face powder |
| Colgate | Tooth pastes, tooth brushes, hair oils. (N.D.A., 1968) |
| Colt | Revolvers |
| Cow and Gate | Milk food for babies (invalids) |
| Crookes | Lenses |
| Cuticura | Talcum powder, face powder |
| Cutex | Nail polish |
| Dalda | Vegetable Ghee (Vanaspati) (N.D.A., 1968) |
| Dhariwal | Woollens |
| Duckback | Waterproofs |
| Dunlop | Rubber tyres, tubes etc. (N.D.A., 1968) |
| Durala | Sugar, sugar cubes, sweets |
| Eno's | Fruit salt |
| Esso | Petroleum |
| Eveready | Torches and cells |
| Favre Leuba | Watches |
| Fiat | Cars |
| Firestone | Tyres and tubes |
| Flex | Shoes |
| Flit | Insecticide |
| Ford | Cars |
| Gamaxin | Insecticide |
| Gillette | Blades and safety razors |
| Glaxo | Biscuits, baby food, glucose |
| Godrej | Safes, soaps and steel goods |
| Gold Flakes | Cigarettes (S.C.R.A., 1969) |
| Good Year | Tyres and tubes (S.C.R.A., 1969) |
| Haig | Whisky |
| Hamam | Toilet soap (N.D.A., 1968) |
| Hercules | Bicycles |
| Hind | Bicycles |
| Hindustan | Cars |
| Hindustan Levers | Soaps and Vanaspati |
| H.M.V. | Radios, gramophones |
| Horlicks | Powdered milk (Baby food) |

| | |
|---------------------|--|
| Indane | Indian Oil gas for cooking |
| JK | Television |
| Kiwi | Boot polish (<i>N.D.A., 1968, SCRA, 1969</i>) |
| Kodak | Cameras, photo goods |
| Kolynos | Tooth pastes and brushes |
| Lactogen | Milk food for babies and invalids |
| Lal Imli | Woollens |
| Liberty | Ready-made garments |
| Lipton | Tea |
| Lux, Lifebuoy | Soaps (<i>SCRA, 1969</i>) |
| Mangharam, J.B. | Sweets, biscuits |
| Maclean | Tooth pastes, powders |
| Matador | Terene suiting (Delhi Cloth Mills) |
| May and Baker | Chemicals, medicines |
| Max Factor | Cosmetics |
| Murphy | Radios, transistors (<i>SCRA, 1969</i>) |
| Neko | Germicidal soap |
| Nivea | Face cream |
| Oberoi's | Hotels |
| Omega | Watches |
| Ovaltine | A tonic drink |
| Palmolive | Toilet soaps and powders |
| Panama | Razors, blades, cigarettes |
| Parker | Fountain pens (<i>N.D.A., 1968</i>) |
| Pears | Powders, soaps |
| Peps | (A remedy for) throat troubles |
| Pepsodent | Tooth pastes and brushes |
| Polson | Butter, coffee (<i>SCRA, 1969</i>) |
| Ponds | Face powders and cream |
| Pye | Radios (<i>N.D.A., May 1968</i>) |
| Quink | Pen ink |
| Rajdoot | Motor cycles |
| Remington | Typewriters |
| Roamer } Rolex } | Watches |
| 7 O'Clock | Blades |
| Saridon | Remedy for pains |
| Singer | Sewing machines (<i>SCRA, 1969</i>) |
| Standard | Radios, transistors, television. |
| Sunlight | Washing soap |
| Sarf | Washing soap powder |
| Tata | Steel, textiles, soaps, cosmetics |
| Telerad | Radios, transistors, television |
| Three Castles | Cigarettes |
| Tinopal | A whitening powder |
| Usha | Sewing machines, fans and machine goods (<i>SCRA, 1969</i>) |
| Vaculax | A laxative |
| Vespa | Motor scooters (<i>N.D.A., May 1968</i>) |
| Vicks | (A remedy for) throat ailments |
| Zoal | Thermometers |

CHAPTER 5

HISTORY

Q. What important events in Indian history took place on the following dates : —

- (i) 273 B.C. (ii) 1001 A.D. (iii) 1600 A.D. (iv) 1919 A.D. (v) 1950 A.D. (Engg. Ser. Electronics, 1970)

Ans. (i) Ashoka came to the throne (ii) Mahmud Ghazni invaded India and defeated Jayapala (iii) East India Company established in India (iv) Jallianwala Bagh massacre took place (v) India became a sovereign Republic.

Q. (a) Give the years of the following :—

(i) Magna Charta (ii) French Revolution (iii) Battle of Waterloo (iv) Slavery abolished in America (v) India became a Sovereign Democratic Republic (vi) Glorious Revolution (vii) Permanent Settlement of Bengal, Bihar and Orissa (viii) Hitler became the Chancellor of Germany (ix) Death of Stalin (x) Death of Jawaharlal Nehru (xi) Treaty of Versailles (xii) Suez Canal opened for the first time (xiii) Regulating Act (xiv) Explosion of the first atom bomb and (xv) Quit India movement.

(b) State the year in which the following battles were fought and between whom ?—

(i) Battle of Trafalgar (ii) Battle of Wandiwash (iii) Battle of Verdun (iv) First Battle of Panipat (v) Second Battle of Panipat.

(c) To which dynasty the following rulers belonged ?—

(i) Henry VIII (ii) Ashoka (iii) Ahalya Bai (iv) Sher Shah and (v) George III (I.M.A., May 1970)

Ans. (a) (i) 1215 (ii) 1789 (iii) 1815 (iv) 1863 (v) 1950 (vi) 1688 (vii) 1793 (viii) 1933 (ix) 1953 (x) 1964 (xi) 1919 (xii) 1869 (xiii) 1773 (xiv) 1945 (xv) 1942.

(b) (i) 1805 ; English (led by Nelson) and the French. (ii) 1760 ; English and the French. (iii) 1916 ; Germans and the French. (iv) 1525 ; Babai and Ibrahim Lodi (v) 1556 ; Akbar and Hemu.

(c) (i) Tudor (ii) Maurya (iii) Maratha (iv) Suri (v) Hanover.

Q. In which century (not years) did each of the following rulers reign ? -

(i) Kanishka (ii) Alauddin Khilji (iii) Razia Begum (iv) Ibrahim Lodi (v) Chandragupta Maurya

(Indian Forest service, 1970)

Ans. (i) 2nd Century A.D. (ii) 13th and 14th Centuries A.D. (iii) 13th Century A.D. (iv) 16th Century A.D. (v) 4th and 3rd Centuries B.C.

Q. (a) In what century (B.C. or A.D.) did the following events take place?—

(i) Reign of Ashoka (ii) Birth of Buddha (iii) Birth of Shakespeare (iv) Alexander's invasion of India (v) Reign of Harsha.

(b) In which year were the following battles fought? —

(i) Battle of Talikota (ii) Battle of Buxar (iii) Battle of Plassey (iv) Second Battle of Panipat (v) Third Battle of Panipat. (Engg. Ser., 1970)

Ans. (a) (i) 3rd B.C. (ii) 6th B.C. (iii) 16th A.D. (iv) 4th B.C. (v) 7th A.D.

(b) (i) 1565 (ii) 1764 (iii) 1757 (iv) 1556 (v) 1761

Q. (a) Who were the contesting parties in the following battles, and who won? Mention the years in which they were fought.

(i) Battle of Kalinga (ii) Battle of Talikota (iii) Battle of Plassey (iv) Battle of Trafalgar (v) Battle of Jutland (vi) Battle of El Alamein.

(b) Why are the following dates famous in Indian History? —

(i) 563 B. C. (ii) 1498 A. D. (iii) 1605 A. D. (iv) 1772 A. D. (v) 1942 A. D.

(c) Mention the dates of the following events? —

(i) The Declaration of American Independence (ii) First World War (iii) Russian Revolution (iv) Pearl Harbour Raid (v) Bandung Conference. (I. N. July, 1970)

Ans. (a) (i) 261 B. C.; between Ashoka and the Kingdom of Kalinga in which Ashoka won. (ii) 1565 A. D.; between the Hindu kingdom of Vijayanagar and Sultanates of the Deccan in which the latter won. (iii) 1757; between English led by Clive and Nawab Siraj-ud-Daula of Bengal in which the former won. (iv) 1805; between the French and the English led by Nelson. Nelson won the Battle. (v) 1916; between Germany and Britain in which the latter won. (vi) 1942; between British forces led by Gen. Montgomery and German and Italian forces under Marshal Rommel. The British won the Battle.

(b) (i) Birth of Buddha (ii) Sea route to India discovered by Vasco da Gama (iii) Death of Akbar (iv) Warren Hastings appointed Governor in India (v) Quit India Movement.

(c) (i) 1776 (ii) 1914-18 (iii) 1917 (iv) 1941 (v) 1955.

Q. (a) What is the significance of the following in Indian History? (one sentence each)

(i) First Battle of Panipat. (ii) Battle of Plassey. (iii) Defeat of Prithvi Raj at Thanesar. (iv) Battle of Kalinga (v) Sepoy Mutiny of 1857.

(b) Mention the year of occurrence of the following : —

(i) Quit India movement (ii) Formation of the United Nations (iii) Tashkent Agreement (iv) Assassination of Mahatma Gandhi (v) First General Election in India after Independence.

(Stenographers, 1970)

Ans. (a) (i) Babar defeated Ibrahim Lodi and founded the Mughal Dynasty in India (ii) Clive defeated Siraj-ud-Daula and the English became supreme in Bengal (iii) It laid the foundation of Muslim rule in Northern India (iv) Its devastation made Ashoka renounce war and violence (v) East India Company liquidated and the administration of India became the responsibility of the British Crown. .

(b) (i) 1942 (ii) 1945 (iii) 1966 (iv) 1948 (v) 1952

Q. Name the parties who were engaged in the following battles/wars, and state the year in which each took place :-

(i) Battle of Haldighat (ii) Battle of Plassey (iii) Third Battle of Panipat (iv) Battle of Waterloo. (N. D. A. May, 1970)

Ans. (i) Rana Pratap and the Mughal Army of Babar; 1576 (ii) English led by Clive and Siraj-ud-Daula, Nawab of Bengal; 1757 (iii) Ahmed Shah Abdali and the Marathas; 1761 (iv) The French led by Napoleon and the English led by Wellington; 1815.

Q. (a) Mention one important event associated with the following years ? -

(i) 1576 A. D. (ii) 1776 A.D. (iii) 1869 A.D. (iv) 1885 A.D. and (v) 1 66 A.D.

(b) Name the most important persons associated with the following places:-

(i) Bardoli (ii) Corsica (iii) Pondicherry (iv) Porbunder and (v) Jerusalem. (N.D.A. May, 1970)

Ans. (a) (i) Battle of Haldighat (ii) Declaration of American Independence (iii) Opening of the Suez Canal (iv) Formation of the Indian National Congress (v) Tashkent Declaration.

(b) (i) Mahatma Gandhi (ii) Napoleon Bonaparte (iii) Aurobindo Ghosh (iv) Mahatma Gandhi (v) Jesus Christ

Q. In which year did the following events take place ?

Ans. (i) Accession of Sultana Razia to the throne of Delhi (ii) India's First War of Independence (iii) Jallianwala Bagh Tragedy (iv) Commencement of India's First Five Year Plan (v) First General Election in India. (Engg. ser. Exam., 1969)

Ans. (i) 1236 (ii) 1857 (iii) 1919 (iv) 1951 (v) 1952

Q. (a) Why are the following dates famous in Indian History?

(i) 273 B.C. (ii) 1398 A.D. (iii) 1680 A.D. (iv) 1885 A.D.

(b) What is the importance of the following dates in World History ?--

(i) 1789 A.D. (ii) 1815 A.D. (iii) 1869 A.D. (iv) 1920 A.D. (I. N. Dec., 1969)

Ans. (a) (i) Ashoka's accession to the throne (ii) Timur's invasion of India (iii) Death of Shivaji (iv) Birth of the Indian National Congress.

(b) (i) French revolution took place (ii) Napoleon defeated in the Battle of Waterloo (iii) Suez Canal opened for traffic (iv) League of Nations formed.

Q. The eighteenth century is known as the 'darkest age' in the economic history of India. Do you agree ? If so, what were the causes for the economic decline of the country during this period ? (Not more than 350 words) (I.A.S., 1969)

Ans. During the last years of Aurangzeb's rule, the economic prosperity of India had begun to decline. This process hastened with his death in 1707 as a natural sequel to disappearance of all semblances of peace and political order. The plundering invasions of Nadir Shah (1739) and Ahmad Shah Abdali (1761) entirely drained the royal treasuries of whatever was left in them after the costly losing wars against the invaders. General erosion of central authority, court revolutions and conspi-

racies were a common experience. Continual wars, bankruptcy of administration and exhaustion of the exchequer had made maintenance of peace and order impossible.

To crown it all, the lackadaisical attitude of the rulers towards the economic well-being of the people and their thorough neglect of agriculture, industries and trade had led to decrease in "national stock", deterioration in the mechanical skill and impoverishment of art, culture and civilization. The ravages committed by the Portuguese pirates against the Indian ships, misuse of trade privileges by the foreigners, indulgence in shady deals by the East India Company which had enjoyed monopoly trade in salt, betelnut and tobacco, oppression of weavers and merchants and huge drain of gold, silver and other metals had ruinous effect on the Indian economy. Consequent on the deprivation of royal patronage, the skill and industry suffered a steep decline. Armies were disbanded and thousands of people lost their means of livelihood, only to strengthen the ranks of dacoits and trouble makers during the post-Plassey period. The eighteenth century was, therefore, perhaps the darkest period for the Indian economy.

Q. (a) Name the events associated in Indian history with the following dates :

(i) 261 B.C. (ii) 1192 (iii) 1761 (iv) 1942 and (v) 1950.

(b) Write one sentence on each of the following :-

(i) Harappa (ii) Talikota (iii) Lumbini (iv) Peacock Throne and (v) Seringapatnam.

(c) Give the dates of the following events :

(i) The discovery of America by Columbus (ii) The Battle of Waterloo (iii) The Russian Revolution (iv) Pearl Harbour Incident (v) The founding of the United Nations. (I.E.S., 1969)

Ans. (a) (i) Battle of Kalinga (ii) Second Battle of Taram ; Prithviraj Chauhan defeated and killed (iii) Third Battle of Panipat ; Marathas defeated by Ahmed Shah Abdali (iv) The "Quit India" movement of the Congress (v) India became a sovereign Republic ; Sardar Patel died.

(b) (i) Situated in Montgomery Distt. of West Pakistan, Harappa is famous for the recently unearthed excavations of the Indus Valley Civilization that dates back to 3,000 B.C. (ii) In 1565, a decisive battle was fought at Talikota between the Vijayanagar Empire and the combined Muslim forces, resulting in the defeat and disintegration of the former. (iii) Situated in Nepal, it is claimed to be the birthplace of Gautama Buddha. (iv) The Peacock Throne, set with jewels and raised on a dais with silver steps was a real piece of Mughal Court's legendary splendour. It was carried away to Iran by Nadir Shah in 1739 and is now occupied by the Shah of Iran. (v) Situated in Mysore State, Seringapatnam was Capital of the Mysore rulers—Haidar Ali and Sultan Tipu—in the eighteenth century. The Fourth Mysore war was fought here in 1792 in which Tipu was killed and his empire was completely destroyed.

(c) (i) 1492 (ii) 1815 (iii) 1917 (iv) 1941 (7 Dec.) (v) 1945 (24 Oct.)

Q. To which dynasty did the following rulers belong?*(Stenographers, 1969)*

(i) Altamash (ii) Ashoka (iii) Humayun (iv) Baji Rao
 (v) Harsha (vi) Kanishka (vii) Ibrahim (viii) Alauddin
 (ix) Sher Shah (x) Elizabeth I (xi) James II and (xii)
 George III.

(Stenographers, 1969)

Ans. (i) Slave (ii) Maurya (iii) Mughal (iv) Peshwa (v)
 Vardhana (vi) Kushan (vii) Lodi (viii) Khilji (ix) Suri (x) Tudor
 (xi) Stuart (xii) Hanover.

Q. (a) Mention the year in which the following events took place :—

(i) Glorious Revolution (ii) French Revolution (iii)
 Columbus discovered America (iv) Vasco da Gama discovered
 sea route to India (v) Declaration of American Independence
 (vi) Declaration of Human Rights by the U.N.O. (vii) Death of
 Mahatma Gandhi (viii) Death of Pandit Jawaharlal Nehru (ix)
 India became a Sovereign Democratic Republic (x) Commence-
 ment of the United Nations Organization.

(b) Give the years in which the following battles were fought ?

(i) Alexander's invasion of India (ii) First Battle of
 Panipat (iii) Battle of Haldighat (iv) Battle of Plassey
 (v) Battle of Trafalgar.

(c) (i) In what ship did the Pilgrim Fathers travel to
 America ? (ii) What is the distance between the rails on a
 broad gauge railway ? (iii) Name the Muslim king who changed
 his Capital from Delhi to Daultabad (iv) What city in
 India was founded by Job Charnock ? (v) Name the saint in
 whose honour the Urs fair is held in Ajmer ? *(S.C.R.A. 1969)*

Ans (a) (i) 1688 (ii) 1789 (iii) 1492 (iv) 1498 (v) 1776 (vi)
 1948 (vii) 1948 (viii) 1964 (ix) 1950 (x) 1945.

(b) (i) 326 B.C. (ii) 1526 (iii) 1576 (iv) 1757 (v) 1805

(c) (i) Mayflower (ii) 5'-6" (iii) Mohd Tughlaq (iv)
 Calcutta (v) Khwaja Muinuddin Chishti.

Q. Name the following :—

(i) The birthplace of Gautam Buddha (ii) Founder of
 Jainism (iii) The celebrated musician at the Court of Akbar
 (iv) The first Indian to get the Nobel Prize (v) The first
 President of the Indian Republic (vi) The first Indian Gover-
 nor General after Independence (vii) The king who completed
 the building of Qutab Minar (viii) The place where the first
 atom bomb was dropped. (ix) The queen over whose grave
 the Taj Mahal was built (x) President of the Swatantra Party
 of India. *(S.C.R.A. 1969)*

Ans. (i) Lumbini (Nepal) (ii) Lord Mahavira (iii) Tansen
 (iv) Rabindranath Tagore (v) Dr. Rajendra Prasad (vi) Mr. C.
 Rajagopalachari (vii) Altamash (viii) Hiroshima (ix) Mumtaz
 Mahal (x) M.R. Masani.

Q. Give the years of the following events :—

(i) Inauguration of the first radio station in India (ii)
 Assassination of Mahatma Gandhi (iii) The year of the

Russian Revolution (iv) The establishment of the Nazi regime in Germany. (v) The first conquest of Mount Everest.

(Cent. Inf. Ser., 1969)

Ans. (i) 1927 (ii) 1948 (iii) 1917 (iv) 1933 (v) 1953.

Q. What important events in Indian history took place on the following dates ?

(i) 261 B.C. (ii) 1565 A.D. (iii) 1905 A.D. (iv) 1935 A.D.
(v) 1948 A.D. (Engg. Ser. 1969)

Ans. (i) Battle of Kalinga (ii) Battle of Talikota (iii) Partition of Bengal and Swadeshi movement (iv) Govt. of India Act, 1935 passed (or the 1935 Constitution) (v) Mahatma Gandhi assassinated.

Q. Answer the following :—

(i) In which year did Alexander the Great invade India ?
(ii) When did Columbus discover America ? (iii) Name the Governor General who was associated with the abolition of Sati. (iv) In which year was decimal coinage introduced in India ? (v) Name the main parties who fought the third Battle of Panipat. (Geologists, 1969.)

Ans. (i) 326 B.C. (ii) 1492 (iii) Lord William Bentinck (iv) 1957 (v) Ahmad Shah Abdali and the Marathas.

Q. Mention the significance of the following years in Indian history (Answer each sub-part in 20 words) .-

(i) 273-232 B.C. (ii) 1526 A.D. (iii) 1889 and (iv) 1967.
(Clerks Gde., 1969)

Ans. (i) Ashoka's reign. The bloody Battle of Kalinga was fought during this period which made Ashoka renounce wars and violence. (ii) The First Battle of Panipat was fought between the invading army of Babur and that of Ibrahim Lodi. Babur won a decisive victory. (iii) Pandit Jawaharlal Nehru, who was later to become one of the most illustrious sons of India, was born on 14 November that year. (iv) Fourth General Election took place. Congress returned to power at the Centre but non-Congress Ministries emerged in seven States.

Q. Answer the following :—

(a) (i) Who started the policy of merging the princely States into the Indian Union ? (ii) Who started the Khudai Khidmatgar movement in undivided India ? (iii) Who were the signatories to the famous Poona Pact ? (iv) Who led the Civil Disobedience Movement in India ? (v) What distinction did India achieve in hockey in the last Olympic games ? (vi) Who is the *ex officio* Chairman of Rajya Sabha ?

(b) (i) Who said I have no further territorial claims to make in Europe ? (ii) Who was a man of blood and iron ? (iii) Who contemptuously described the English as a nation of shopkeepers ? (iv) Who is the king who walked three times round the bed of his son and then cried 'I have borne it away ! I have borne it away !' ? (v) Which king has been called the 'Napolean of India' ? (vi) Name the last of the Hindu kings who sat on the throne of Delhi.

(c) (i) Mention the date when the American War of Independence began. (ii) Mention the last ruler of the Mughal dynasty.

(IMA., Apr. 1969)

Ans. (a) Sardar Patel (ii) Khan Abdul Ghaffar Khan, popularly known as Frontier Gandhi (iii) Dr. Ambedkar and caste Hindu leaders (iv) Mahatma Gandhi (v) The dubious distinction of being placed third in the ranking and winning only a bronze medal (vi) The Vice-President of India.

(b) (i) Napoleon (ii) Prince Bismarck of Germany (iii) Disraeli (iv) Babur (v) Samudragupta (335-375 A.D.) (vi) Prithviraj Chauhan.

(c) (i) 19 April, 1775 (ii) Bahadur Shah Zafar.

Q. (a) Name the Presidents of the United States of America who were assassinated during their term of office.

(b) Give the years of the following events :—

(i) Sack of Somnath (ii) Death of Shivaji (iii) Gandhi-Irwin Pact (iv) Abdication of King Edward VIII (v) Death of F.D. Roosevelt (vi) Birth of Christ (vii) Khrushchev relieved from the post of Prime Minister of USSR (viii) Battle of Waterloo (ix) Rowlatt Act (x) Birth of Guru Nanak. (N.D.A. May, 1969)

(c) Why are the following years important in Indian history ?

(i) 712 (ii) 1739 (iii) 1398 (iv) 1942 and (v) 1950.

Ans. (a) Abraham Lincoln, James A. Garfield, William Mackinley and John F. Kennedy.

(a) 1025 (ii) 1680 (iii) 1931 (iv) 1936 (v) 1945 (vi) 4 B.C. (vii) 1964 (viii) 1815 (ix) 1919 (x) 1469.

(c) (i)– (v) See under Important Dates in Indian History.

AN HISTORICAL SURVEY

The meaning of History : The word 'history' is derived from a Greek word meaning knowledge and, in its widest sense, is a knowledge of past events in all fields of human activity. History, thus defined, is a record of events or, in other words, the past activities of nations.

History is divided into ancient, medieval and modern. Ancient history lasts until the fall of the Roman Empire in the West, and that of the Hindu Kingdoms in India ; medieval history dates from 400 to 1492 in the West and from the advent of Mohammedans (712 A.D.) to the decline of the Mughal Empire (1760 A.D.) in India. Modern history dates from then onwards.

Some Important Dates in World History

B.C.

5000

Earliest civilisation of Egypt.

3000

Indus Valley Civilisation of Mohenjodaro and Harappa.

2900

Pyramids of Gizeh built (During the period of IV Dynasty).

826

Carthage, ancient city of Africa, founded.

800

Age of Homer.

776

First Olympiad held in Greece.

753

Rome founded.

- 700 Zoroasterian Era in Persia.
- 563 Birth of Gautama Buddha.
- 490 Battle of Marathon was fought wherein the Greeks triumphed over the Persian invaders.
- 480 Xerxes, the great Persian King, led second Persian expedition against Greece. The Greek were defeated at Thermopylae but they later triumphed at Salamis, in a sea battle. (*Marine Engg.*, 1964)
- 399 Death of Socrates.
- 327 –26 Alexander's invasion of India.
- 323 Death of Alexander the Great.
- 221 China under Chin-Hung Ti. The Great Wall of China completed.
- 55 Julius Caesar invaded Great Britain.
- 44 (15 March) Assassination of Julius Caesar at the hands of Brutus.
- 4 Birth of Jesus.
- A.D.**
- 33 Crucification of Jesus Christ. (*I.A.S.*, 1952)
- 375 Invasion of Europe by Huns.
- 451 Huns led by Attila defeated at Chalons.
- 569 Birth of Prophet Mohammed at Mecca. (*I.A.S.*, 1952)
- 622 Flight (Hijrat) of Prophet Mohammed to Medina—Beginning of the Muslim Calendar. (*III. Div.*, 1947)
- 871 The Great Danish invasion of Britain and accession of Alfred the Great to the throne of England.
- 899 Death of King Alfred (According to some authorities, Alfred died in 901 A.D.) (*I.A.S.*, 1947)
- 1066 Norman invasion of Britain: Battle of Hastings wherein William, the Duke of Normandy, defeated King Harold II of England. (*Marine Engg.*, 1954)
- 1213 Chingez Khan conquers China.
- 1215 *Magna Carta* or the *Great Charter* granted at Runnymede by the banks of the Thames.
- 1280 Gunpowder invented by Roger Bacon.
- 1295 First regular Parliament of England representing the Barons, Clergy and Commons called by Edward I.
- 1337 Hundred-years' war broke out.
- 1349 Widespread occurrence of plague—Black Death—in Europe. In England, one man in three died of it.
- 1431 Joan of Arc defeated the British at Orleans. Later, she was captured and burnt alive for sorcery.
- 1453 Beginning of "revival of learning"—Renaissance—in Europe. The capture of Constantinople by the Turks
- 1486 Bartholomew Diaz, a Portuguese navigator, rounded the Cape of Good Hope, thus opening sea route to India.

- 1492 Columbus set out on his first expedition to the West Indies—Discovered America.
(*I.N., N.D.A., S.C.R.A., 1966*)
- 1498 Vasco da Gama, a Portuguese navigator, discovered sea route to India via the Cape of Good Hope.
- 1529–1536 Fall of Cardinal Wolsey ; Reformation in England.
- 1564 Birth of William Shakespeare.
- 1577 Francis Drake, an English seaman set sails to south on a voyage round the world; returned to England in 1580.
- 1588 An English Fleet under Lord Howard of Effingham defeated the Spanish Armada. England became the "Mistress of the Sea." (*N.D.A., S.C.R.A., 1966*)
- 1599 Arrival of Dutch traders in India.
- 1600 Establishment of British East India Company in India.
- 1605 Gunpowder Plot to blow up English Parliament.
- 1616 Death of Shakespeare. (*I.A.S., 1947*)
- 1649 Trial and execution of King Charles I of England.
- 1649—1660 The Commonwealth and the Protectorate in England.
- 1653 Cromwell made Protector ; he died in 1658.
- 1660 Restoration of monarchy in England; Charles II crowned.
- 1665 The Great Plague of London ; the first Dutch War.
- 1666 The Great Fire of London.
- 1679 The Habeas Corpus Act passed.
- 1688 The Bloodless or Glorious Revolution in England. James II driven from the throne.
- 1689 End of despotic rule in England. Supremacy of Parliament ; abolition of Divine Rights of Kings.
- 1704 Battle of *Blenheim* ; French defeated. Capture of Gibraltar by the English who now established control over the sea-route to India.
- 1707 Union of England and Scotland.
- 1739 Britain's war with Spain.
- 1756—63 Seven Years' war between Britain and France over colonies. England emerged supreme as a colonial power.
- 1775 War between British and American States forces began.
- 1776 Declaration of American Independence. Federal Republic of United States of America formed.
- 1783 Treaty of Versailles signed between Great Britain and America. Britain recognised the American independence.
- 1789 George Washington became the first President of the U.S.A. French Revolution took place.
- 1798 Battle of the Nile; British forces under Lord Nelson defeated the French forces. (*Asstt. Gde., 1947, 1950*)
- 1800 Parliamentary Union between England and Ireland.
- 1805 Battle of Trafalgar ; Nelson killed in Battle.

- 1815 (i) Battle of Waterloo ; Napoleon suffered his career's worst defeat and was exiled to St. Helena. (I.N., 1966)
(ii) Congress of European nations held in Vienna to settle the boundaries of European States.
- 1823 Monroe Doctrine proclaimed.
- 1827 Battle of Navarino ; the combined fleets of Russia, England and France defeated Turkey ; Greece freed.
- 1832 Reforms bill passed in England ; French captured Antwerp.
- 1833 Emancipation Act passed ; slavery outlawed in British empire.
- 1837 Queen Victoria came to the throne of England.
- 1839 Introduction of Penny postage system in England. Aden captured and annexed by England.
- 1854 -56 The Crimean War between Russia and Turkey. England and France helped Turkey.
- 1857 The Indian Mutiny (War of Independence).
- 1863 Slavery abolished in America.
- 1865 President Lincoln assassinated ; Ku Klux Klan movement in America against the Negroes.
- 1869 Suez Canal opened for traffic.
- 1877-78 Russo-Turkish War ; Turkish rule in Europe ended.
- 1899 Beginning of the Boer War.
- 1901 Death of Queen Victoria.
- 1904-05 War between Japan and Russia ; Russia defeated.
- 1909 Robert E. Peary discovered North Pole.
- 1911 Chinese revolution ; Amundsen reached South Pole.
- 1912 Establishment of the Chinese Republic.
- 1914 Outbreak of World War I (A / I.M.S., 1965)
- 1916 Naval battle of Jutland. English defeated Germans.
- 1917 Revolution in Russia ; the Communists came to power.
- 1918 (11 Nov.) World War I ended ; President Wilson's Fourteen Points of Peace. (N.D.A., May, 1966)
- 1919 The Paris Conference ; The Treaty of Versailles.
- 1920 League of Nations formed. (M.W., 1950)
- 1921 Establishment of Irish Free State as a Dominion.
- 1922 Civil War in Ireland between the supporters of free State and the Republicans ; Mussolini seized power in Italy.
- 1923 Kemal Ataturk proclaimed Turkish Republic.
- 1924 Death of Lenin ; Stalin came into power in Russia
- 1925 Locarno Pact signed.
- 1928 Kellogg-Briand Pact, or the Pact of Paris, signed.
- 1932 Roosevelt elected President of the U.S.A.
- 1933 Hitler became Chancellor of Germany.
- 1934 Hitler launched purge of German leaders.
- 1935 War between Italy and Ethiopia (1935-36). Plebiscite in Saar and its merger with Germany.

- 1936 Abdication of King Edward VIII ; King George VI ascended the throne. Italy annexed Ethiopia.
- 1939 World War II broke out (1 Sep., 1939).
(S.C.R.A., 1966)
- 1945 Atom bomb dropped on Hiroshima (6 Aug.), Nagasaki (9 Aug.) World War II ended. UNO founded.
- 1946 Chinese Civil War. The Philippines became free.
- 1947 Aung San, Prime Minister of Burma, assassinated. Marshall Plan launched in Europe. India achieved independence. Asian Relations Conference in India.
- 1948 Burma and Ceylon became free. Mahatma Gandhi assassinated (30th January). Israel formed in Palestine.
- 1949 NATO Pact signed. Ireland became a Republic. Indonesia freed. In China, Communists came into power ; Chiang Kai-shek withdrew to Formosa.
- 1950 India became a Democratic Republic. (26th Jan.) ; North Korea attacked South Korea (25 June). Civil War in Nepal. China marched into Tibet and occupied it.
- 1951 Liaquat Ali Khan, Pakistan's first Prime Minister, murdered. Japanese Peace Treaty signed.
- 1952 First elections in India (after independence).; King George VI died. Coup in Egypt ; Gen. Eisenhower elected President of the U.S.A.
- 1953 Death of Stalin. Cease-fire in Korea. Mount Everest conquered by Hillary and Tensing Norgy (29 May).
- 1954 Geneva Conference of Big Powers on Korea and Indo-China ; War in Indo-China ended. North Vietnam, South Vietnam, Laos and Cambodia created.
- 1955 SEATO formed ; Afro-Asian Conference at Bandung (Indonesia) ; Austrian Peace Treaty signed. West Germany joined N.A.T.O. ; Baghdad Pact concluded.
- 1956 Tunisia and Morocco freed ; nationalization of Suez Canal ; Britain, France and Israel attacked Egypt. U.N. intervened ; Uprising in Hungary.
- 1957 Ghana, Malaya freed. Russia launched I.C.B.M. ; International Geophysical Year (I.O.Y.) began ; Russia launched Sputniks I and II. (I.T.I., 1964)
- 1958 Merger of Egypt and Syria (United Arab Republic); Coup in Iraq, Kassem came to power ; coup in Pakistan, Ayub came into power.
- 1959 Geneva Conference on Berlin ; incidents on Sino-Indian borders; China claimed large areas of Indian territory.
- 1960 U-2 incident; 16 African territories achieved independence. Russia demanded abolition of UN Secretary General's post ; many Heads of States attended UN session ; U.N. intervened in Congo.

- 1961 "Vostok I" (Yuri Gagarin inside) in space (12 Apr.); U.S.A. sent Alan Shepard into space (5 May); South Africa left Commonwealth ; Khrushchev and Kennedy met at Vienna ; Death of Dag Hammarskjöld in an air crash. Russia built Berlin Wall (13 Aug). (*N.D.A., May, 1966*)
- 1962 17-Nation Disarmament Conference at Geneva (14 Mar.) Vostok III and IV (USSR) and Telstar (U.S.) launched ; Cuban crisis ; massive Chinese invasion in Ladakh and NEFA (20 Oct.) and later (22 Nov.) unilateral cease fire and withdrawal.
- 1963 Britain refused admission to ECM ; West Irian transferred to Indonesia; partial nuclear test ban treaty signed at Moscow (7 Aug.) ; Malaysia formed (16 Sep.) ; President Kennedy assassinated (22 Nov.) ; Kenya and Zanzibar achieved independence.
- 1964 Jawaharlal Nehru died (27 May) ; UN forces withdrawn from Congo (30 June) ; 18th Olympiad in Tokyo.
- 1965 Coup in Algeria, Col. Boumedienne seized power Army captured power in Indonesia (1 Oct.) Southern Rhodesia declared independence Pakistan invaded Rann of Kutch (Feb.-Apr.) Jammu and Kashmir (1 Sep.), cease-fire (22 Sep.) Mikoyan resigned Presidentship of Russia.
- 1966 Tashkent Declaration and death of Lal Bahadur Shastri (11 January) ; *Coups* in Nigeria, Ghana, Uganda. Indonesia ended confrontation with Malaysia and rejoined U.N.O. ; China exploded three nuclear devices.
- 1967 Soekarno ousted. Gen. Suharto new President of Indonesia ; Red Guard activity in China ; Biafra seceded from Nigeria ; UAR closed Gulf of Aqaba (23 May) ; Arab-Israeli war (5-10 June); China exploded H. bomb (17 Jun).
- 1968 UNCTAD held in Delhi (1 Feb.); Mauritius freed (12 Mar.) ; President Novotny ousted in Czechoslovakia. Johnson announced partial bombing halt in Vietnam ; Martin Luther King assassinated (4 Apr.) ; Vietnam peace talks at Paris ; Coups in Congo, Sierra Leone, Iraq, Peru and Panama ; Swaziland freed (5 Sep.) ; Five Warsaw Powers invaded and occupied Czechoslovakia (21 Aug.).
- 1969 Inauguration of President Nixon (20 Jan.) ; Russo-Chinese border clashes at Damansky (2 Mar.) ; Ayub handed over powers to Gen. Yahya (25 Mar.) Trouble in Anguilla ; Apollo IX to XII launched ; Americans land on Moon (20-21 July) ; Americans decided to pull out of Vietnam ; Al Aqsa mosque in Jerusalem burnt ; SALT talks.

- 1970 UNO condemned South Africa ; Sino-Soviet and Sino-US talks ; arms race in West Asia ; Nuclear Treaty came into force (5 Mar) ; Nixon Doctrine ; S. Rhodesia declared a Republic (3 Mar) ; East-West German talks ; World Islamic meet at Jeddah ; Coup in Cambodia, Sihanouk overthrown (18 Mar) ; US intervened in Cambodia ; China launched earth satellite (25 Apr) ; Labour Party defeated in Britain, Edward Heath new Conservative Premier ; cease fire in West Asia, Jarring Mission reactivated. Non-aligned Summit at Lusaka (Sep.). President Nasser died (28 Sep.).

Historical Survey of India

India has had a long and chequered history. Perhaps no other country, except China, can boast of an equally long and glorious character of her civilization. But, to our dismay, the history of India before the coming of the Muslims is vague and lacks precision. In fact before the advent of Muslim rule in India, the country was a medley of various big and small states, principalities and chieftaincies. Our ancient history is the rise, growth and fall of various kingdoms and whims and caprices of individual monarchs.

Lack of historical literature is another great difficulty. The records are so mixed with fable and so distorted as to render them useless for an authentic narrative. "No date of a public event can be fixed before the invasion of Alexander ; and no connected relation of the national transactions can be attempted until after the Mohammedan conquest." Our knowledge about this period of Indian history is chiefly derived from : 1. Tradition, mostly found in ancient literature ; 2. Accounts of foreign travellers and historians ; 3. Archaeological evidence ; and 4. Contemporary literature.

Some Important Dates in Indian History

B.C.

- 3000 Indus Valley Civilization ; Mohenjodaro and Harappa.
 2500—2000 Composition of Vedas
 2000—1500 Aryans came to India.
 800—500 The Upanishads were composed.
 563(567,568) Birth of Buddha, the founder of Buddhism.
 550 Birth of Lord Mahavira who preached Jainism.
 508 Attainment of Nirvana by Mahavira.
 487 Buddha's Nirvana.
 521--486 Inclusion of Sind and Western Punjab in the kingdom of Darius, the ruler of Persia (Iran).
 327 - 326 Alexander's invasion of India ; in 326 B.C. he defeated Porus on the banks of the Jhelum river. But he could go no farther than the Beas river and returned.
 325 Alexander left India along the Mekran Coast back to his native land. The Greek invasion only touched

the frontiers of India and the Greek empire, therefore, came to an end soon after 317 B.C. It left little impact on the life of Indian people. However, with the coming in of Greek Army, the land route between India and Europe had been opened.

(*J.A.S.*, 1956)

- 321 (322) Chandragupta Maurya's accession to the throne (Magadha Kingdom)– a patron of Jainism.
- 305 Seleucus invaded India but was defeated.
- 303 Arrival of Megasthenes, a Greek Ambassador.
- 273—232 Ashoka's reign. (*J.R.S.E.*, 1965)
- 261 Battle of Kalinga. It made Ashoka renounce wars.
- 58 Beginning of Vikrama Era (*N.D.A.*, May, 1966)
- A.D.**
- 78 Beginning of Saka Era.
- 120 Kanishka's accession to the throne.
- 320 335 Chandragupta's accession to throne. He founded the Gupta dynasty; beginning of Gupta Valabhi Era.
- 335 -375 Reign of Samudragupta.
- 375--413 Reign of Chandragupta II (Vikramaditya).
- 399 -411 Visit of Chinese traveller named Fahien to India.
- 606—647 Harsha Vardhana's reign. (*I.N.*, July, 1966)
- 622 Beginning of the Hijri Era.
- 629 -645 Huen Tsang's visit to India.
- 712 Invasion of Sind by Arabs. Mohd. Bin Qasim, a lad of 17, conquered Sind with a small Arab force.
- 788 Birth of Shankracharya. He died in 820 A.D.
- 1001 Mahmud Ghazni invaded India and defeated Jayapala.
- 1025 Mahmud Ghazni destroyed Somnath Temple (Gujarat).
- 1191 First Battle of Taran; Prithviraj defeated Mohd Ghori.
- 1192 Second Battle of Taran; Muhammad Ghori defeated Prithviraj who was killed in the field. (*L.D.C.*, 1965)
- 1206 Qutb-ud-Din Aibek founded Slave Dynasty.
- 1210 Altmash's accession to the throne.
- 1221 (1220) Invasion of India by Chingiz Khan, the Mongol.
- 1236 Sultana Razia ascended the throne of Delhi.
- 1240 Death of Razia Sultana.
- 1398 Timur's invasion of India. (*N.D.A.*, *S.C.R.A.*, 1966)
- 1469 Birth of Guru Nanak, founder of the Sikh faith.
- 1498 Vasco da Gama, a Portuguese sailor, discovered sea route to India and reached the Western Coast.
- 1526 First Battle of Panipat; Babar, the Mughal, defeated Ibrahim Lodi. Mughal dynasty founded in India.
- 1527 Babar defeated Rana Sanga.
- 1556 Second Battle of Panipat; Akbar defeated Hemu; Akbar's accession to the throne. (*N.D.A.*, *S.C.R.A.*, 1966)

- 1565 Battle of Talikota. End of Vijayanagar Empire.
 1576 Battle of Haldighat, Rana Pratap defeated.
 1600 East India Company established in India. Trading
 stations at Surat, Madras and Hooghli.
(I.R.S.E., 1965)
- 1613 Establishment of first English factory at Surat.
 1615 Sir Thomas Roe's visit to the Mughal Court.
 1627 Birth of Shivaji—founder of Maratha power.
 1658 Aurangzeb's accession to the throne.
 1674 Shivaji crowned King at Raigarh.
 1680 Shivaji died. Trading rights to British granted.
 1707 Death of Aurangzeb.
 1739 Nadir Shah invaded India. *(S.C.R.A., 1966)*
 1757 Battle of Plassey; Clive defeated Siraj-ud-Daula.
 1760 French power in India liquidated.
 1761 Third Battle of Panipat; Ahmad Shah Abdali
 defeated the Marathas. *(I.T.O., UPPCS, 1966)*
 1764 The Battle at Buxar between Mir Kasim and the
 English.
 1765 Shah Alam granted Diwani rights of Bengal, Bihar
 and Orissa to East India Company.
 1793 Permanent Settlement of Bengal, Bihar and Orissa.
 1835 English introduced as medium of instruction.
 1839 Maharaja Ranjit Singh died.
 1845 First Sikh War. Sikhs defeated.
 1849 Second Sikh War. Sikhs defeated and Punjab
 annexed.
- 1853 First railway line (from Bombay to Thana) was
 opened.
 1857 The Indian Mutiny or War of Independence: Uni-
 versities established at Bombay, Madras and
 Calcutta.
 1858 Administration of India was taken over by the British
 Crown; East India Company liquidated.
 1861 A High Court established in each Presidency. Indians
 admitted to legislative councils. Birth of Tagore.
 1869 Birth of Mahatma Gandhi (2nd October).
 1885 Indian National Congress formed. *(I.R.S.E., 1965)*
 1889 Birth of Jawaharlal Nehru (14 November).
 1905 Partition of Bengal and Swadeshi movement.
 1906 Nawab Salimullah Khan of Dacca formed Muslim
 League. The Agha Khan was the real spirit behind
 it.
 1909 Minto-Morley Reforms. Separate electorates for
 Muslims.
 1911 Durbar at Delhi. New Delhi made Capital of India.
 1914 World War I broke out.
 1916 Congress-Muslim League Pact of Lucknow.
(N.D.A., 1956)
 Home Rule Leagues formed by Annie Besant and
 Tilak.

- 1918 End of World War I.
- 1919 Government of India Act of 1919. Diarchy system introduced in provinces ; Passage of Rowlatt Act ; Jallianwala Bagh carnage. (*I.S.E., 1965*)
- 1920 Non-Cooperation movement by Mahatma Gandhi ; Khilafat movement. (*S.C.R.A., 1966*)
- 1921 Mahatma Gandhi withdrew the Non-Cooperation movement after the Chauri Chaura outrage.
- 1927-28 Simon Commission in India; Lala Lajpat Rai died.
- 1929 Lahore session of the Indian National Congress ; Resolution for "Purna Swaraj".
- 1930 Congress launched Civil Disobedience movement ; Dandi March by Mahatma Gandhi to defy the salt law ; Round Table Conference in London.
- 1931 Gandhi-Irwin Pact concluded ; Second Round Table Conference in London. (*M.W., June, 1955*)
- 1932 Communal Award announced ; Mahatma Gandhi's fast to oppose separate electorates for Harijans.
- 1935 Government of India Act, 1935 passed.
- 1937 Provincial autonomy conceded (under Govt. of India Act, 1935). Congress formed govts. in 8 provinces.
- 1939 World war II broke out ; Congress Ministries resigned.
- 1941 Subhash Bose escaped from India ; Tagore died.
- 1942 Cripps Mission in India ; Congress rejected British offer of Dominion status; "Quit India" movement.
- 1943 Bengal famine ; I.N.A. formed in Singapore.
- 1945 The Simla Conference ; I.N.A. trial at Red Fort, Delhi.
- 1946 British Cabinet Mission in India ; Interim Govt., headed by Jawaharlal Nehru, formed.
- 1947 Asian Relations Conference at New Delhi ; British rule in India ended (15th Aug) ; India partitioned; Mountbatten appointed first Governor-General of free India ; Pak forces invaded Kashmir. Kashmir acceded to India (27 Oct.).
- 1948 Mahatma Gandhi assassinated (30 Jan.).
- 1949 Cease-fire in Kashmir (1 Jan.) ; 2nd Asian Relations Conference in New Delhi in support of independence for Indonesia ; adoption of Indian Constitution (26 Nov.).
- 1950 India became Sovereign Republic (26 Jan.) ; war broke out in Korea ; Sardar Patel died (15 Dec.).
- 1951 Delhi venue of Asian Games ; First Five Year Plan launched (1 Apr.).
- 1952 First General Elections in India ; Community Development Programme launched (2 Oct.). (*L.D.C., 1965*)
- 1953 Korean War ended ; India headed the N.N.R.C. on Korea ; Mount Everest conquered (29 May).

- 1954 Colombo Powers' meeting in Ceylon ; Chinese and Indian Prime Ministers exchanged visits ; Panch Shila signed.
- 1955 Congress resolution on Socialistic pattern of society (Avadi Session) ; Nehru visited Russia.
- 1956 Indian States reorganised on linguistic basis ; Bulganin and Khrushchev visited India ; Second Five Year Plan inaugurated ; Apsara installed at Trombay.
- 1957 Jarring and Grahni Missions to India and Pakistan on the Kashmir issue ; Second General Elections in India ; Russian Sputniks (4 Oct. and 6 Nov.).
- 1958 Nehru-Noon Pact to resolve border disputes.
- 1959 President's rule in Kerala (Communist government dismissed) Dalai Lama escaped to India ; Swatantra Party formed.
- 1960 Chou-Nehru met ; Indo-Pak Canal Water Treaty signed at Karachi.
- 1961 Queen Elizabeth visited India ; Third Five Year Plan launched ; Goa, Daman and Diu liberated ; China occupied 10,000 sq. miles of Indian territory.
- 1962 Third General Elections in India ; Nagaland created ; China invaded India (20 Oct.) ; Emergency declared ; Unilateral cease-fire by China (21 Nov.) ; Colombo conference on Sino-Indian border dispute.
- 1963 India accepted Colombo Powers proposals to end Sino-Indian border dispute. Kamraj Plan ; some Central and State Ministers resigned.
- 1964 Sheikh Abdullah released ; Death of Jawaharlal Nehru (27 May) ; Lal Bahadur Shastri became Prime Minister. Partap Singh Kairon, Chief Minister of Punjab, resigned.
(*N.D.A., Dec, 1965 ; L.D.C., 1965*)
- 1965 Mount Everest climbed by an Indian team ; Pakistan invaded Kutch ; Pakistan attacked Chhamb (Jammu) (1 Sep.) ; India used air power and opened new fronts in Lahore Sector (6 Sep.) and Sialkot Sector (8 Sep.) ; cease fire made effective (23 Sep.).
- 1966 Tashkent Agreement signed (10th Jan.) ; Lal Bahadur Shastri died a few hours later ; Mrs. Indira Gandhi became Prime Minister (24 Jan.) ; Punjab reorganised on linguistic basis (1 Nov.) ; India won Asian Hockey final at Bangkok, defeating Pakistan (18 Dec.)
- 1967 Fourth General Elections in India ; Mrs. Indira Gandhi formed new govt. (13th March) ; Zakir Husain and V.V. Giri elected President and Vice-President respectively ; unrest in Naxalbari (W. Bengal).
- 1968 Emergency withdrawn (10 Jan.) ; Abdullah set free ; UNCTAD, CASTASIA held at Delhi ; Kutch Award announced ; Russia promised arms to

- Pakistan ; President's rule imposed in UP, Bihar, Punjab and Pondicherry.
- 1969 Mini general elections in Punjab, UP, West Bengal and Bihar and second general elections in Nagaland (Feb.) ; Political unrest in Andhra for separate Telengana State ; Fourth Plan Draft released ; President Zakir Husain died (3 May) ; Finance Minister Morarji Desai resigned ; V.V. Giri and G.S. Pathak elected President and Vice President respectively. G.S. Dhillon elected Speaker, Lok Sabha ; 14 major banks nationalized ; crisis in Congress Party ; Assam Reorganization Bill passed.
- 1970 Preventive Detention Act lapsed ; Banks denationalized and renationalized ; Draft 4th Plan approved ; Chandigarh awarded to Punjab ; Indus Waters Treaty expired ; Petitions challenging Giri's election dismissed by Supreme Court ; Naxalite activity in West Bengal and other States ; ceiling on urban property ; Central Cabinet reconstituted. Bill for Abolition of Privy Purses passed by Lok Sabha but lost in Rajya Sabha ; Princes derecognized by Presidential order ; Princes challenged the Order in Supreme Court.

India down the Ages

The Indus Valley Civilization. The Indus Valley Civilization, which has taken Indian history backward by about three thousand years, was recently unearthed in excavations at Harappa in the Montgomery District of former Punjab and at Mohenjo-Daro, in the former Sind province. *This highly developed city culture was comparable to the civilization of Elam and Mesopotamia and was at least as old as the earliest known civilization in any other country. The two most interesting sites at Harappa are the cemetery, the granary and the workmen's quarters. The cemetery reveals the burial practices of the Indus Valley citizens. The granary served as a store-house. Workmen's quarters were regular and well-planned. Some seals were also discovered which bore images of various animals. Mohenjo-Daro was a planned city, with buildings mostly made of baked bricks. In the centre of the town there was a big assembly hall, raised on pillars. The houses were well-ventilated with doors and windows and were fitted with paved floors, bathrooms and an excellent system of drainage.

The early Indus settlers had developed a high degree of urban culture. They were well-versed in the art of agriculture and raised wheat, barley and cotton. They ate meat and fish and reared cattle like pigs and sheep. They were acquainted with

*Some excavated objects at Lothal (Gujarat) and Kalibangan (Rajasthan) show remarkable resemblance to the excavations of the Indus Valley Civilization. They indicate that the Harappan culture was much more widespread than believed heretofore. Some other excavated objects dating back 1900 to 1400 B.C. in the Tungabhadra, Palar and Pennar basins in South India are believed to have also been influenced by the latter Harappans.

the use of metals like gold, silver and copper. Their weaponry included bows, daggers, spears and axes. They wore cotton and woollen clothes. The arts of sculpture and pottery had attained a high degree of perfection. They worshipped Mother Goddess as also some other objects like snakes, trees etc. They believed in the theory of rebirth and transmigration of soul.

The Aryan Occupation of India

Dravidians. The Dravidians, who were driven away by the Aryans, were short-statured, dark-complexioned people with dark eyes and plentiful hair. Most of them are said to be at present the inhabitants of South India and speak Tamil, Telugu, Kanarese, Malayalam, etc. They had developed a very high stage of civilization and had known the use of gold and other metals. They made boats, navigated rivers and carried on profitable trade with the neighbouring countries like Persia.

Aryans. Among the various races which have come to India, the most important is the Aryans. The name of the country "Aryavarta" indicates their domination. They have contributed more than any other race to the culture and civilization of this country. The original home of the ancient Aryans was somewhere in the plains of Central Asia. They were skilful warriors and worshipped the phenomena of nature. They were like one nation, speaking one language, holding one worship and leading one mode of life. In course of years the gradual desiccation of land resulted in scarcity of food in Central Asia and the Aryans, thousands of years before the birth of Christ, left their original home in search of new fields and pastures. The Indo-Aryan group amongst them came down from Bactria over the passes of Hindu Kush into South Afghanistan and thence by the valleys of the Kabul, the Kurram and Gomal into the North Western Frontier Province and Punjab. They defeated the Dravidians, ended their supremacy and established their own sway. They called this country as the land of "Sapta Sindhu" or seven rivers.

The Vedic Literature

The Vedas. The word "Veda" is derived from "Vid" which means "knowledge". While there appears to be no evidence of a fixed date or time when the Vedic literature was compiled, it is fairly certain that it grew up in centuries and is perhaps the oldest systematic literary effort in the world.

The Rig Veda. Because of its antiquity and literary merit, the Rig Veda is most important. It is also an important source of information regarding the life and civilization of the earliest phase of Aryan settlement in the country. The Veda consists of 1017 hymns, mainly mythological in character, composed in the Kabul Valley and in the Punjab.

The Sama Veda. The Sama Veda or "the knowledge of melodies" is mainly devoted to music. Every melody had its own significance and its own symbolic meaning. The melodies mostly related to the Soma sacrifice.

The Yajur Veda. The Yajur Veda is the Veda of charms

and magic. It reveals the Aryan advance from the Punjab to the territory lying between the Jamuna and Sutlej. Some of the hymns give indications of beginning of the caste system.

The Atharva Veda. The Atharva Veda was not recognised as a Veda for a long time. It consists of charms and spells, for example charms against fever, headache, jaundice, etc. It greatly stresses the supremacy of the Brahmins. Ayurveda, the Indian science of healing, is often traced to the Atharva Veda.

(N.D.A., 1958)

Other Vedic Literature. The ancient Aryan literature has been divided into two classes—(a) *Śruti* and (b) *Smṛiti*. The word *Śruti* implies hearing and includes all the Vedic literature which the Hindus regard as the revealed word of God. The word *Smṛiti* signifies memory and includes most of the ancient literature which was memorised and handed orally from generation to generation, e.g., *Ramayana*, *Mahabharata*, *Puranas* etc.

Brahmanas. These are religious manuals which contain theological matter especially observations on sacrifice and the practical or mystical significance of the separate sacrificial rites and ceremonies.

Aranyakas or “the forest books”. They were so called “because their contents were so secret that they had to be studied in the depths of the forest.”

Upanishadas. They form the basis of the Hindu Philosophy, better known as Vedantic philosophy. Upanishadas mark the end of Vedas and try to give hidden interpretations of the meanings of the Vedic hymns. They are the source of the theory of Karma.

The Sutras. Most of the Vedic literature was handed down orally from father to son or from the Guru to the disciple in some kind of formulae, easy to remember and transmit. This type of literature was called the Sutras.

The Upavedas. They mean the “subsidiary Vedas” and are mainly concerned with four secular subjects—Ayurveda or medicine, Dhanurveda or military science, Gandharvaveda or music and Shilpaveda or the science of arts and architecture.

The Epics. Epics like *Ramayana* and *Mahabharata* described the religious, social and political conditions of the Aryans during the post-Vedic era.

The Puranas. Eighteen in number, the Puranas deal with the primary creation and secondary creation, laws of Manu and the history of various dynasties. In Puranas, “history has been made to assume the disguise of prophecy.”

ANCIENT RELIGIONS

Jainism

Jainism, as a separate sect, existed long before the birth of Gautama Buddha. According to Jain traditions, Jainism is an eternal religion whose prophets or “tirthankaras” have revealed the truth to mankind at regular intervals. The fundamental principles of Jainism are: (i) Ahimsa; (ii) truthfulness; (iii)

not to steal ; (iv) not to possess any property ; (v) observance of chastity ; and (vi) not to wear clothes.

The Jains recognize neither the authority of Vedas nor the Vedantic doctrine of a Universal Soul or Supreme Being. They regard God as "manifestation of all the noblest powers latent in man." In the atheistic characteristics, Jainism resembles Buddhism and the Sankhya system of Hindu philosophy. Attainment of salvation, Karma, self-mortification and penance (*tapasya*) and absolute purity in life are cardinal principles and beliefs of Jainism. Jainism, by virtue of its pacifist religious philosophy, never followed a policy of aggressive conversion. Brahmanism never regarded it a serious rival.

Buddhism

Buddhism, the system of philosophy and ethics founded by Buddha, is one of the great religions of the world. Its beliefs were in origin closely related to Brahmanism but had less formalism and a greater emphasis on self-denial and compassion. The two fundamentals of Buddhism are indicated by the words "Karma" and "Nirvana". Karma is commonly taken to mean transmigration of the soul continuing through repeated incarnations until the attainment of the supreme bliss of Nirvana, which again is erroneously supposed to mean annihilation. The four noble truths of Buddha are : (i) Existence is suffering ; (ii) The origin of suffering is desire ; (iii) Suffering ceases when desire ceases, and (iv) The way to reach the end of desire is by following the "noble eight-fold path". This path comprises right belief, right resolve, right speech, right conduct, right occupation or living, right effort, right contemplation or right-mindedness and right ecstasy.

Hinduism

It appears that the life of early Aryans was guided by the set of principles that form the basis of Brahmanism. Religion, the Aryan "Dharma", had no fixed scriptural canon, but Vedas, Brahmanas and later Bhagwat Gita had elaborate theological commentary. The early Aryans deified the powers of heaven, the earth and firmament and worshipped them by offering sacrifices accompanied by recitation of Vedic hymns. Among the various gods, the most important were Agni (fire), Vayu (air) and Indra (God of Storm) who was respected as the national God. The only important goddess was Usha, the Goddess of Dawn to whom some of the finest hymns in Rig Veda are addressed. Brahmanism substituted near about 550 B.C. for Vedic religion a complex system of ritual and theosophy expounded in Brahmanas and Upanishads. Brahmanas regulate sacrifices to gods and personify moral qualities. Upanishadas (foundation of modern Hindu philosophy) developed the doctrine of a universal soul or being to which individual souls will be reunited after "Maya" (illusion of time and space) is conquered. A later stage of Hinduism was represented by Tantras and Puranas. Tantras are mainly prescriptions for securing divine favour; Puranas comprise poems addressed mainly to Shiva.,

the Destroyer, and Vishnu, the Preserver. These and Brahma, a remote deity who created the universe, formed triad at the centre of Hinduism.

FUSION OF RACES

Indians, as we find them today, are a mixed race. This country has often been described as an "ethnological museum" with a number of races speaking different languages. Some of these races are: (1) **The Kols.** Believed to be the earliest settlers of India, they mostly lived in forests in the hilly tracts. The Bhils, the Gonds and the Santhals are some of the descendants of the Kols. (2) **The Dravidians.** Most of them are at present inhabitants of South India and speak Tamil, Telugu, Kanarese, Malayalam, Tuluva and Oraon languages. (3) **The Mongolians.** They were the original inhabitants of China and Mongolia and had poured into India from the North Eastern side. They are found to be inhabiting Assam and sub-Himalayan territories. (4) **The Aryans.** They are to be found in the whole of North India. (5) **The Greeks and the Sakas.** Most of such races and tribes came to India after the Aryans were absorbed in the Hindu fold. Their descendants are the Rajput and Jat tribes of Northern India. (6) **The Huns.** They were nomadic hordes of fierce barbarians who drove down to the Northern plains of India from Central Asia between the fifth and the seventh centuries A.D. They were the ancestors of the Jats, Gujars and Rajputs of present India. (7) **The Muslims.** Unlike their predecessors, Muslims have kept their identity but have greatly influenced Hindu thought and culture. The fusion resulted in the transformation of Urdu language. (8) **The Europeans.** They started entering India in the 16th century. Their descendants are the Anglo-Indians. The present-day India owes its concepts of democracy and parliamentary rule to the influence of Europeans.

The Languages

There are about 200 languages spoken in India (though recognition has been given in the Constitution to only 15 languages) but practically all of these can be grouped into three classes. The Munda or the Kolarian group is the oldest, though from literary point of view it is not at all important. The Dravidian group represented by Tamil, Telugu, Tulu, Proam, Malayalam and Kanarese languages, prevails mainly in the South. The third, the Indo-Aryan group includes all the main vernaculars of Aryavarta, like Punjabi, Kashmiri, Bengali, Sindhi and Hindi. The evolution of Urdu has been the result of the fusion of Hindu and Muslim cultures.

THE RULERS OF INDIA

Hindu Dynasties

Maurya Dynasty (321 B.C.—184 B.C.)

Chandragupta Maurya (321—298 B.C.) Chandraguta Maurya was the founder of the first Indian empire in India. The advent of the Mauryan Dynasty marks the passage from

darkness to light for the historian. For the first time in history, Indians established their supremacy beyond the frontiers of India. He defeated Seleucus in 305 B.C. Kautilya (Chanakya) was one of his senior ministers.

Ashoka (273 B.C. to 232 B.C.). Known as one of the greatest kings in the world history, Ashoka was the son of Bindusara. After the Kalinga War he embraced Buddhism, renounced war and turned a monk to promote the moral and spiritual welfare of his subjects. Almost the first teacher of universal humanity, he was the main spirit behind spread of pacifist Buddhism outside India. His empire, however, disintegrated shortly after his death.

Kushan Dynasty (20—182 A.D.).

Kanishka (120—162 A.D.). Kanishka's mighty empire included, in addition to the possessions of Central and Western India, countries like Afghanistan, Bactria, Kashgar, Khotan and Yarkand outside India. Himself a liberal patron of Buddhism, his religion, however, never came in the way of his conquests and empire building. His Capital was Peshawar. The Kushan civilization was practically a combination of Greek, Persian and Indian cultures. He was a great promoter of the Gandhara School of Art.

Gupta Dynasty (320—545 A.D.)

Samudragupta (335—375 A.D.). A great monarch who has been called the "Indian Napoleon". He possessed the rare combination of military genius and statesmanship which is essential for an empire builder. A tolerant Brahmanical Hindu and a great patron of art and culture, he subdued the whole of the country with a view to becoming the "Chakravarti Raja".

Chandragupta Vikramaditya (375—413 A.D.). The Gupta empire was at its zenith during his reign. "India has never been governed better, after the oriental manner." His "Navrattans" (nine gems) included Kalidasa, the greatest of the Indian dramatists and poets. According to the Chinese traveller Fa-hien, the country was rich, people were happy, crime was the least problem and all led a happy and moral life.

Skandagupta (455—467 A.D.). His reign was short and stormy. He was almost the last great king of the Gupta period. Besides Kalidasa, the Sanskrit dramatist, Aryabhata, mathematician and astronomer, Varahamira and Brahmagupta were the product of this Age.

Vardhana Dynasty (560—647 A.D.).

Harsha Vardhana (606—647 A.D.). Harsha is one of the most remarkable monarchs of ancient Indian history. He combined in him some of the attributes and characteristics of both Samudragupta and Ashoka. A zealous Buddhist and a great military genius, Harsha was a man of manifold qualities. He had evolved order out of chaos and had once again restored the unity of the country. His administration was highly organised. He was the last important Hindu ruler of India. He was also a man of encyclopaedic learning. Shortly after his death, the Vardhana empire melted into oblivion. (I.A.S. 1965)

The Crescent In India

The Arab Invasion of India (712 A.D.).

In 712 A.D., Mohammad Bin Qasim, a young Arab General, invaded India and conquered Sind and Multan. Leading a highly organised and systematic Arab expedition consisting of 6,000 picked Syrian and Iranian warriors and equal number of armed camel riders, "the story of Mohammed Bin Qasim's invasion of Sind", says Dr. Ishwari Prasad, "is one of the romances of history." The conquest of Sind was, however, not durable as shortly afterwards Mohammad Bin Qasim fell from favour of the Hajjaj and met his tragic end. The Arab hold on the conquered territory lapsed almost with the death of Mohammed Bin Qasim.

The Rise and Fall of Ghazni rulers (963 - 1117)

Mahmud Ghazni (997—1030 A. D). After the death of his father in 997, Mahmud succeeded to the throne of Ghazni. He launched seventeen invasions against India during the years 1000-1026 A.D. and by subduing all rulers that dared face him, he proved to be one of the strongest rulers of Asia. His most momentous expedition was aimed against Somnath in the year 1025-26. The battle was a scene of terrible carnage wherein more than 5,000 Hindus were put to death, the temple and the costly, artistic idols were broken into pieces and all valuables including the sandal-wood doors of the temple were looted and carried away to Ghazni.

Ghori (1186--1206).

Mohammad Ghori (1186--1206). In 1186, Ghori captured Lahore. In 1191, he encountered Prithviraja, ruler of the kingdoms of Delhi and Ajmer, at Tarain, a village near Thanesar (in Haryana), where Ghori's army was completely routed and dispersed in confusion. However, in the Second Battle of Tarain the following year (1192 AD), he defeated Prithviraja and occupied Delhi, making it the seat of his government.

The Slave Dynasty (1206—1290 A.D.)

Qutab-ud-Din Aibak (1206- 1210). Ghori died without a male heir and soon after his death, Qutab-ud-Din Aibak, his able and trusted general, formerly a slave, captured power and established what is called the Slave Dynasty. The construction of the famous Qutab Minar had been started during his lifetime.

Altmash (1210—1236). He was a slave of Aibak and had risen to eminence by dint of merit. He effected the conquest of Gwalior and Bengal and became the overlord of Northern India.

Razia Sultana (1236—1239). Razia was the daughter of Altmash and was nominated as heiress even during the lifetime of her father. She was the first woman ruler of Delhi. She was sagacious, just and beneficent and was endowed with all the admirable attributes of a king.

Khilji Dynasty (1290—1320).

Alauddin Khilji (1296—1316). Alauddin Khilji seized the throne after murdering his uncle and father-in-law Jalaluddin Khilji. It was during his reign that South India was conquered for the first time. Alauddin possessed the qualities of a born military

leader and civil administrator. His control of the market is one of the marvels of medieval statesmanship. Soon after his death in 1316, Khilji empire came to an end.

The Tughlaq Dynasty (1320–1412 A.D.)

Ghiasuddin Tughlaq (1320–1325 A.D.) A man of humble origin, he rose to high position in the time of Alauddin Khilji by dint of personal merit. He died at the hands of his scheming son Juna.

Mohammad Tughlaq (1325–51). Unquestionably the most learned and accomplished of the Muslim rulers of India, Mohammad Tughlaq was a benevolent ruler. His liberalism is reflected in his desire to be tolerant towards the Hindus and in his efforts to suppress “sati” which was in vogue in the 14th century. However, some taxation measures and the transfer of the capital to Devagiri (renamed Daultabad) did make him unpopular among his subjects. The heavy drain upon his treasury as a result of transfer of capital and existence of famine conditions forced the king to introduce token (copper) money but the project was a complete failure.

Feroze Tughlaq (1351–1388 A.D.) Feroze Tughlaq came to the throne on the pleading of nobles and ministers of Mohammad Tughlaq. He died in 1388 A.D. and shortly after, the empire disintegrated into petty principalities.

The Lodi Dynasty (1451–1526)

Ibrahim Lodi (1517–1526). A man of headstrong and irritable temper, his haughty and insolent manner alienated many of his courtiers and nobles. In 1526, his own Governor of Lahore, Daulat Khan, invited Babar, the ruler of Kabul, to invade India. Babar defeated and slew Ibrahim Lodi in the First Battle of Panipat in 1526, and overthrew the Lodi Dynasty.

The Mughal Dynasty (1526–1640)–Part I

Zahiruddin Babar (1526–1530). A descendant of Taimur from his father's side and of Chingiz Khan from his mother's, Babar was the son of Umar Sheikh Mirza, ruler of Farghana, which now forms part of Russian Turkistan. Before he was invited by the Lodi-appointed Governor of Lahore, he had unsuccessfully launched various expeditions against India. Finally in 1526, he defeated Ibrahim Lodi in the First Battle of Panipat and founded the Mughal empire in India. He defeated the intrepid Rana Sanga at Khanwah, near Sikri in 1527 and became the Emperor of Hindustan.

Humayun (1530–1540) and (1555–1556). After his father's death, Humayun could not consolidate the Mughal empire. In 1540, he was defeated by Sher Shah Suri, an able Afghan warrior, and was forced to take refuge in Persia. He returned to India in 1555 to be restored to the throne the same year. He died in 1556.

The Suri Dynasty (1540–1555)

Sher Shah Suri (1540–1545). One of the ablest rulers and the great fighters of India, Sher Shah's short reign was famous for administrative reforms, systematic revenue collection, useful public works like construction of roads and organised military system. But he died too soon, that is, within five years of ousting the

Mughal monarch Humayun.

(I.A.S. 1966)

Sikander Sur (1554—1555). Sher Shah was succeeded by Sikander Sur. He was defeated by Humayun, who returned in February, 1555.

Mughal Dynasty (1555—1857) Part II

Akbar (1556—1605). At the age of 13, Akbar was crowned the emperor of India and placed under the regency of the faithful family friend Bairam Khan. He defeated Hemu Bakal in the Second Battle of Panipat in 1556 and became the unquestioned master of the country. He continued the policy of conquest, defeated Rana Pratap and other rulers of Rajputana and in a short time his empire covered a greater part of India. A man of immense wisdom and statesmanship, Akbar's fame lay in his religious tolerance and reconciliation towards the Hindus, more especially the Rajputs, who later proved the pillars of his empire and winners of his wars. He was no bigot, least a fanatic and "Din-i-Ilahi" was the offspring of his "eclectic pantheism" that saw good in the basic tenets of all religions and which was a combination of mysticism, philosophy and nature worship. He was a great lover of art: literature and architecture.

Jahangir (1605—1627). Jahangir's reign is known for strict administration of justice. During a greater part of his reign, the state affairs were managed by that indomitable and intelligent person named Nur Jahan whose beauty and grace went well with ruling acumen and tact.

Shahjahan (1627—1659). Shahjahan's reign is known for promotion of art, culture and architecture. Monuments like the Red Fort, Jama Masjid, Taj Mahal etc. are a ringing testimony to the royal interest in art and architecture. In the last years of his life, he was imprisoned by his son Aurangzeb and he died a captive in 1666.

Aurangzeb (1659—1707). Aurangzeb rode to power after shedding considerable blood of brothers, and after gagging his aged father, Shahjahan. During his reign, he unleashed a policy of ruthless persecution and religious vendetta against Hindus, imposed *jaziya* on them and put them to the sword on flimsy prettexts. After his death in 1707, durability of Mughal rule proved a myth. The empire melted away in course of time.

Maratha Dynasty (1649—1748)

Shivaji (1627—1680). Shivaji was the son of Shahji Bhonsla who was in the service of the Bijapur State. Influences of heredity, education, temperament and environment drove him to take up arms against the mighty Mughal Empire. He was a born leader of men and his character was a judicious combination of the ideal and the practical. It goes to his credit that he created a strong Hindu empire in the face of strong opposition from the Mughals. He was also an able administrator

Peshwa Dyansty (1708—1818)

The Sikh Dynasty (1795—1849)

Ranjit Singh (1780—1839). Having assumed leadership of his "misal" (principality), young Ranjit Singh extended his territory, by means of conquests and became the strongest Indian ruler

of his time. For the first time after Harsha Vardhana did an Indian ruler hold sway over the turbulent Pathan tribes and Afghanistan. By a treaty with the British in 1809, Ranjit Singh had accepted the Sutlej River as the southern boundary of his empire. An able general, a great fighter, a generous ruler and a shrewd politician, Ranjit Singh's rule has been described by historians among the best of all times. He died in 1839.

Ranjit Singh's death was followed by accession to the Lahore throne of Kharag Singh, an imbecile son of Ranjit Singh, and a series of revolutions and assassinations. In 1845, Dilip Singh, a child of five, was made the Maharaja with Rani Jindan, his mother, as regent. The same year, the Sikh Army, apprehending an attack by British forces, crossed Sutlej and a war was fought at Mudki. The Sikhs were defeated. The later battles, fought between the Sikh Army and the British, were at Ferozshah, Aliwal, and Sabraon, where the Sikhs were beaten due to the treachery of their generals. The British occupied Lahore and forced the Sikhs to accept humiliating terms of peace. In 1849 the Second Sikh War took place with important battles at Multan, Chelianwala and Gujrat. The English triumphed over the Sikhs, Punjab was annexed and Dilip Singh was pensioned off and sent into exile.

The Deccan Dynasties

The Chalukyas. They were a Rajput family having gone to the South in the 6th Century A.D. Pulakesin II ascended the throne in 611 A.D. and conquered the areas of Pallavas. Chalukyas were overpowered by the Rashtrakutas.

Rashtrakutas. They were originally inhabitants of Maharashtra. Dantidurga defeated the Chalukyas and established his own rule. He was succeeded by Krishna I (who built the beautiful Siva temple at Ellora) and Amoghavarsa who was a follower of Jainism. The dynasty ended in 892 A.D.

Pandya. This Kingdom covered the areas of Travancore, Madura and Trichinopoly. Sundaram Pandya was a powerful ruler of this Kingdom. He died in 1293 A.D. He had the whole Tamil country and Ceylon under him. In 1310 Malik Kafur's raids destroyed the Kingdom and the territories came under the governance of Muslims.

Chola. This included territories of Madras and some portion of Mysore. Raja Raja Chola ascended the throne in 985 A.D. and was followed by his able son Rajendra Chola, the most important King of the dynasty. He conquered Orissa, Bengal, Burma, Andaman and Nicobar Islands. He reigned from 1018 to 1042 A.D. The Kingdom declined after his death.

Chera. It covered areas of Malabar, Cochin and Travancore.

Pallavas. It included Telegu and Palaghat districts. The Pallavas were in constant conflict with Chalukyas.

The Bahmani Kingdom (1347—1518 A.D.)

In the fourteenth century A.D., the Deccan provinces broke away from the central authority. There emerged a Mohammedan Kingdom of the Bahmani Dynasty in Gulbarga and a Hindu Empire at Vijayanagar. The Bahmani Kingdom was founded in 1347 A.D.

Ala-ud-Din Hasan Bahman Shah (1347—1359). Zafar Khan,

the first ruler and founder of the Dynasty, assumed the title of Ala-ud-Din Hassan Bahman Shah.

Mahmud Shah (1482—1518). Mahmud Shah, the last ruler, was weak and completely under the spell of his wily Minister Amir Barid. He died in 1518 and was succeeded by three other puppet kings. The extent of the Bahmani Empire was limited to Bedar only. Forces of disintegration brought down the Kingdom soon after.

The Vijayanagar Empire (1336 A.D.—1565 A.D.)

Hari Har and Bukka (1336—1379). During the reign of Mohammad Tughlaq, the Deccan became the hotbed of intrigue. This confusion helped establishment of a Hindu empire in Vijayanagar in 1336. The founders of this empire were the two brothers, Hari Har and Bukka who belonged to the Yadava race and had served at Warrangal. Bukka founded Vijayanagar.

Kirshna Deva Raya (1509 -1530). He defeated the Bahmanis, subdued the King of Orissa and approved the capture of Goa in 1510 by the Portuguese with whom he developed good neighbourly and trade relations.

Sadashiva Raya (1542—1565). Sadashiva Raya's hostile attitude towards the Muslim Sultanates in the Deccan resulted in a Muslim alliance against Vijayanagar. This resulted in the Battle of Talikota in 1565.

Battle of Talikota (1565). The Battle opened on 5th January, 1565 at Talikota wherein the Muslims made considerable use of artillery. Hindu Army was completely routed and the Muslims gained an overwhelming victory. More than a lakh of the Hindus were slain. Ram Raya, the Vijayanagar Minister, was captured and was mercilessly beheaded. Not only did it prove a decisive battle, but it also ended in the cataclysm of Hindus. Vijayanagar city was completely sacked, looted and burnt. The Hindu empire ended with a dismal note.

INDIA UNDER BRITISH RULE

The East India Company

The East India Company was formed in 1600 in England by means of a Charter given by the British Government to a number of private traders for monopoly of trade with Eastern Hemisphere. Immediately afterwards, trading stations were established at Surat, Fort St. George, Madras and Hooghli. These establishments grew into the three presidencies of Calcutta, Madras and Bombay. The Company slowly and steadily expanded its trade, overcame successfully its French and Portuguese rivals and later broadbanded its functions to acquire Indian territory and rule over it. In 1751, Clive, with the help of few men, captured Arcot and then gained other successes which established the power of Britain in that region.

The British forces, led by Clive, defeated Siraj-ud-Daula at Plassey in 1757. The traitorous Mir Jaffar, who had, in conspiracy with Clive, brought about the downfall of Siraj-ud-Daula, was installed the Nawab of Bengal. Not long after was Mir Jaffar himself replaced by Mir Kasim. Mir Kasim ceded to the Company the Districts of Burdwan, Midnapore and Chittagong. Mir Kasim,

who tried to place the Indian and British traders on equal footing, soon came into conflict with the Company. Thus in 1764, the combined forces of Mir Kasim and Shuja-ud-Daula, the ruler of Oudh, fought a decisive battle at Buxar in which the English triumphed. As a result of their victory, the English not only tightened their grip over Bengal but also ensured the safety of its north-west frontier.

During the second governorship of Clive (1765-67)—the first term was from 1757 to 1760—the East India Company secured the Diwani rights in Bengal, Bihar and Orissa from Emperor Shah Alam. This was the first great step towards territorial dominion. The Company also assumed the responsibility of defence of Bengal, leaving civil, criminal and police administration to the Nawab.

The period between 1756—1761 witnessed the transformation of East India Company into a territorial power in India. India at that time was a house divided; Mughal power was sinking, the Afghans under Ahmad Shah Abdali had done a death blow to the power and effectiveness of Marathas at Panipat (1761) and the French had also been vanquished at Wandiwash. The stars were thus propitious for the English to step in and become the masters of the land.

Governors General of India (1774—1858)

Warren Hastings (1774—1785). Hastings introduced many reforms, improved revenue administration, established civil and criminal courts and courts of appeal. He discontinued the tribute payable to Shah Alam, the Emperor of Delhi, and checked the onslaughts of Marathas and Haider Ali. The Regulating Act, envisaging the constitution of a Council of Ministers under the Governor General, and considered to be the first legislative interference by the British Government in the affairs of India, was also passed during the rule of Hastings. Under the famous Pitt's India Act of 1784, the affairs of the Company were placed in permanent subordination to the British Parliament.

Lord Cornwallis (1786—1793) Permanent Settlement of Bengal, Bihar and Orissa was carried out in 1793. In the Third Mysore War, Tipu was defeated at Seringapatam in 1792. (S.C.R.A. 1965)

Lord Wellesley (1798—1805). Alliance with the Nizam; the Fourth Mysore War in 1799; Tipu defeated and killed; Mysore was divided between Nizam and the Company.

Lord Minto (1807—1813). Treaty of Amritsar signed in 1809 between Ranjit Singh and the Company defining the former's boundaries to the West of the Sutlej River.

Marquess of Hastings (1813—1823). War with Nepal (1814-16) and the Treaty of Sangauli (1816); Nepal ceded to the Company the area known as Garhwal and Kumaon and accepted to have a British Resident at Kathmandu. The Third Maratha War resulted in complete rout of the Marathas. Their territories were annexed.

Lord William Bentinck (1828—1835). Various reforms were introduced; Employment of Indians on responsible positions; Abolition of Sati; Suppression of the Thuggs; introduction of English as medium of instruction. (S.C.R.A., 1965)

Lord Hardinge (1844—1848). The First Sikh War (1845); Sikhs defeated at Mudki, Ferozshah, Sabraon; the Treaty of Lahore.

Lord Dalhousie (1848—1856). The Second Sikh War (1849); Sikhs, after initial successes, were ultimately defeated; Punjab annexed and Prince Dilip Singh pensioned off. Doctrine of Lapse and annexation of Oudh. His reforms included opening of the first railway line, uniform post office facilities, improvement in means of communications, creation of public works department.

Lord Canning (1856—1862). The Mutiny of 1857.

India Under the Crown

Viceroy of India (1858—1947)

Lord Canning (1858—1862). Transfer of Indian administration to the British Crown. Indian Council Act of 1861 and decentralisation of administration. Establishment of High Courts, one in each Presidency (1861); military and financial reforms: appointment of a Finance Member (James Wilson was the first Finance Member who introduced the Income Tax); the Penal Code and Code of Criminal Procedure introduced.

Lord Ripon (1880—1884). Extension of local self-government by setting up of the district boards, local bodies and municipalities.

(S.C.R.A., 1965; I.A.S., 1965)

Lord Curzon (1899—1905). Expedition to Tibet to counter Russian influence there; partition of Bengal; general political uneasiness and discontent; beginning of the Swadeshi movement and boycott of British goods.

Lord Minto (1905—1910). Muslim League was formed (1906). Minto-Morley Reforms (Indian Council Act of 1909). Separate electorates conceded to Muslims to create a spirit of separatism among them.

Lord Hardinge (1910—1915). Partition of Bengal was reversed; Capital shifted from Calcutta to Delhi. A grand Durbar was held at Delhi presided over by King George V and the Queen.

Lord Chelmsford (1916—21). Passage of Rowlatt Act. Jallianwala massacre (13 Apr. 1919) wherein hundreds were shot dead and thousands wounded. Non-Cooperation Movement; Govt. of India Act of 1919 promising gradual responsible govt. to Indians; central and provincial subjects were defined. Dyarchy introduced.

(S.C.R.A., 1965)

Lord Irwin (1926—31). The Simon Commission came to India; Historic Congress session at Lahore demanded complete independence (1929); the historic Dandi March and the beginning of Civil Disobedience Movement. Gandhi-Irwin Pact of 1931; all the political prisoners unconditionally released.

Lord Willingdon (1931—36). General reign of terror; Communal Award of 1932; separate electorates for depressed classes; Gandhiji undertook a fast in protest against this measure; Govt. of India Act of 1935, providing for an all-India federation and provincial autonomy, passed.

Lord Linlithgow (1936—1942). Govt. of India Act 1935 enforced; Congress Ministries formed in eight of the eleven pro-

vinces (1937) but resigned in 1939 as a protest against the Government's war policy. Pakistan Resolution of the Muslim League. Cripps Mission in India (1942) but failed to achieve success. Quit India movement started by Congress (8 Aug. 1942).

Lord Wavell (1943—1947). The Simla Conference (1945). The Cabinet Mission to India (1946) submitted a plan of future political set-up for India. Constituent Assembly formed; Interim Govt. inaugurated. Constituent Assembly held first meeting. Muslim League's direct action; killings in Calcutta, Bihar and Noakhali.

Lord Louis Mountbatten (March 1947—14 August 1947). The June 3 Mountbatten Plan envisaged partition of India as well as the provinces of Punjab and Bengal, referendum for N.W.F.P. and Sylhet District of Assam. A Boundary Commission appointed to define boundaries of Punjab and Bengal; Independence Act 1947 passed by the British Parliament; India partitioned and Pakistan established. Lord Mountbatten appointed Governor General of India and M. A. Jinnah that of Pakistan.

Governors General of the Indian Union

Lord Louis Mountbatten (15th Aug. 1947—20 June 1948).

Shri C. Rajagopalachari (21 June 1948—25 January 1950).

Presidents of the Republic of India.

Dr. Rajendra Prasad (1950—1962).

Dr. S. Radhakrishnan (1962—1967).

Dr. Zakir Husain (1967—1969).

Mr. V.V. Giri (1969—)

A DICTIONARY OF IMPORTANT WORLD EVENTS

Afghan Wars. There were three wars fought between the English and Afghanistan to check alleged Russian infiltration in Afghanistan and its possible repercussions on the British position in India. These wars took place in 1838-42, 1878-79 and 1879-80. The last one was led by Sir Frederick Roberts to put down anti-British demonstrations.

Alamein, El, Battle of. Alamein, a small Egyptian township west of Alexandria was, in 1942, the scene of two battles between the British Eighth Army and the combined German and Italian Armies of Marshal Rommel. The battles marked the launching of the Allied offensive which was to clear North Africa of Axis troops. The Eighth Army was commanded in the second battle of Alamein by General Montgomery.

American Civil War. Its cause lay in the rivalry between the agricultural slave-owning South and the industrialised non-slave North, moral campaign of abolitionists and especially the quarrel concerning Federal control Vs. States' rights. Election of Abraham Lincoln as President and secession of Southern States precipitated war in April, 1861. Throughout 1861 and 1862, the South held on but the North's superior strategy and cumulative effect of naval blockade wore down the secessionists. With the Southern armies divided and weakened by mass desertion, the secessionists surrendered in 1865. The victory was, however, marred by the assassination of President Lincoln. But the Union was saved and slavery was abolished.

Amritsar (Jallianwala) Massacre (1919). Mahatma Gandhi's call in 1919 to *satyagraha* met with tremendous popular response. At Jallianwala Bagh, Amritsar, the people, who had assembled in a prohibited meeting, were mercilessly fired upon on the orders of General Dyer on 13th April, 1919. The massacre that took a toll of about 400 dead and a thousand wounded, was the worst example of senseless government barbarity. Many including Tagore returned their titles and decorations as a protest. The Punjabis thus responded to Gandhiji's call for *satyagraha* with blood and broken bones.

Anti-Corn Law League. A movement with headquarters at Manchester, founded in 1839, to advocate Free Trade and more especially abolition of duties upon imported corn. It was the first national reformist campaign in Britain. The Corn Laws were repealed in June, 1846.

Anti-Semitism. Anti-Semitism is a sentiment of hate towards the Jews, expressed in persecutions, expulsions and restrictions. During early 1870s a group of German writers began to attack Jews as members of a distinct and inferior race. In Russia in 1905-9, worst possible persecution and outrages were organised against the Jews by the terrorist "Black Hundreds". During the years 1933-38, anti-Semitic movement gained ground in most European countries, especially in the Hitlerite Germany. Between 1939 and 1945, the Nazis caused the death of six million Jews, over a third of the then total Jewish population in the world.

Atlantic Charter. It was a statement of peace aims for the post-war world, issued jointly by President Roosevelt of the U.S.A. and Prime Minister Winston Churchill of Great Britain on the conclusion of a series of meetings between 9 and 12 August 1941 aboard U.S. Cruiser Augusta in Argentina Bay, Newfoundland. The main features of the statement were : (i) a renunciation of territorial or other aggrandizement by Britain and the U.S.A. ; (ii) opposition to territorial changes contrary to the wishes of the people immediately concerned ; (iii) support of the right of the peoples to choose their own form of government ; (iv) support for easing of restrictions on trade and access to raw materials on equal terms ; (v) full collaboration between nations in economic fields after the war ; (vi) the future peace must ensure freedom from want and fear ; (vii) the future peace must guarantee freedom of the seas ; and (viii) aggressor nations must be disarmed pending the establishment of a general security system.

Later, the 15 nations fighting the Axis powers endorsed the Atlantic Charter which was also included in the aims and objects of the United Nations.

Axis Powers. It was the name given to the co-operation of Nazi Germany and Fascist Italy between 1936 and 1945. The metaphor was invented in a speech in 1936 by Mussolini. This agreement was strengthened by the formal alliance of the two countries on 22 May 1939.

Balaklava, Battle of (1854). A battle of the Crimean War. The Russians tried to seize the British base at Balaklava but

were repulsed. The confusion between the British commanders led to the charge of the "Light Brigade" under Lord Cardigan. Asked to seize a Russian position at all costs, the Light Brigade fought its way to triumph ultimately, though the Brigade lost one-third of its men dead or wounded.

Bastille, Storming of the (1789). On 14th July 1789, a French mob attacked the Bastille, which had gained notoriety as a state prison. The attackers killed the Governor and other important officials. This attack marked the beginning of the French Revolution which had been gathering momentum over the previous two years.

Bhakti Movement. Unlike the earlier foreigners who came to stay in India, the Muslims preserved their separate entity on account of a feeling of superiority to the natives as well as their adherence to Islam with a tenacity and enthusiasm unknown in India. But the contacts between Muslims and Hindus produced an intermingling of two faiths that removed many oddities in their character. With the settlement of Muslims in India, a new spirit, the oneness of God, appeared to appeal to the polytheistic Hindus. Thus was born the Bhakti movement which represented in its essence the spirit of judicious synthesis of Hinduism and Islam. The first exponent of this movement was Ramanuja, who preached the unity of God in the 11th century A.D. in South India. He was later followed by Namdeva, Tukka Ram and Ram Dass in Maharashtra, and Ramanand, Kabir (a Sudra), Dhanna (a Jat) and Ravidas (a cobbler) in U.P. during the 14th and the 15th centuries. Dadu in Deccan and Madho Dass and Gharib Dass in Rajputana carried on this movement. The exponent of this religious transformation in Punjab was Nanak (1469-1539) who preached monotheistic creed (oneness of God) and a casteless society. During his religious wanderings, he visited deep South, Assam and practically all centres of Hindu pilgrimage to preach his gospel to the people. He took his message of love and peace to such far off lands as Tibet, Arabia (Mecca and Medina), Constantinople (the seat of Greek classical learning), Iran and Afghanistan.

Bolsheviks, Mensheviks. Bolsheviks were members of the more violently revolutionary wing of the Russian Democratic Party in exile. In 1903, the Party was split into two wings. The Bolsheviks (majority members) led by Lenin advocated immediate revolution and establishment of a dictatorship of the proletariat. The Mensheviks (minority members) led by Plekhanov, thought that during transition to Communism, a democratic or even a bourgeois regime may be acceptable to the Communists. The Bolsheviks came to power in Russia by the October Revolution of 1917. The Communist Party, formed in 1918, absorbed only a few Mensheviks and the others were "liquidated".

Britain, Battle of (1940). The Battle royal that raged between the ill-equipped RAF and the formidable German Air Force in British skies between 10 July and 31 October, 1940. The British air defence gave dogged resistance and never allowed the Germans to take an edge over it. During the 12-week encounter,

the German aircraft losses were estimated at 1733 against the British loss of 915 fighters.

Buxar, Battle of (1764). Mir Jaffar, who rode to power by deceit and fraud, was soon himself replaced by Mir Kasim. Mir Kasim came into conflict with the English over his policy to place the Indian and English traders on equal footing. The English seized Patna but Kasim defeated them. In 1764, the combined forces of Mir Kasim and Nawab of Oudh were defeated at Buxar. Thus the English demonstrated their military superiority and established their claim as the conquerors of Bengal.

Casablanca Conference (1943). A meeting in North Africa between Roosevelt and Churchill (14-24 January, 1943) at which it was decided to take the war to the bitter end and insist on an unconditional surrender of Germany. The military leaders, assembled at this conference, composed their differences on the projected Allied invasion of Sicily and Italy.

Chinese Revolution of 1911. Since 1905, some revolutionary groups were working in China against the Manchu Empire. After widespread disturbances in 1911, two rival regimes were established—General Yuan Shih-Kai was appointed Prime Minister in Peking and Sun Yat-Sen was elected President by a revolutionary assembly in Nanking. In 1912, the boy Emperor Pu-i was forced to abdicate and, to forge unity, Sun Yat-Sen handed over authority to Yuan Shih Kai who became President of Chinese Republic.

Chingiz (Gingiz) Khan's Invasion of India (1220-21). Proclaimed Khan in 1205, Chingiz Khan completed his conquest of Mongolia in 1206 and by 1213 had overrun China, Balkha Bokhara, Samarqand and many other countries. In about 1220, he chased the defeated Shah of Khiva to India and came up to the Indus river. Fortunately the oppressive heat of India found him reluctant to proceed to Punjab and Delhi and he returned to the west.

Civil War, The Great (Great Rebellion of Britain) (1642-49). The Civil War was a contest between two nearly equal parties in Britain, one led by the King and consisting of a majority of the Lords and nearly half of the Commons, the Church and the sympathisers and the other led by the Army and consisting of majority of the Commons, the Puritans and the traders. The rival camps were named the Royalists and the Roundheads respectively. The war started in 1642 and ended in 1646 with complete rout of Charles I who surrendered to the Army. The Puritans had now broken up into Presbyterians and independents and the King tried to set one against the other. The result was the Second Civil War between the Parliament and the Army. The Army overcame its enemies and the King was consequently tried and beheaded. Monarchy was abolished and Oliver Cromwell installed himself as the Lord Protector of England. (I.A.S., 1966)

Concentration Camps. The centres that were set up in South Africa to detain the Boer civilians with a view to preventing them from aiding the Boer guerillas came to be known as concentration camps. In Germany, concentration camps were established by the Nazis at Oranienburg and Dachau in 1933. During the War,

these camps were used for systematic extermination of Jews. Some camps also provided slave labour for the German armaments industry. Among largest camps in Germany were Buchenwald, Dachau and Belsen where six million Jews and Poles were done to death in gas chambers.

Concordat. A treaty between the Papacy and a temporal power concerning ecclesiastical affairs. The most famous was the Concordat between Pius VII and Napoleon in July 1801. Other Concordats in modern times have been concluded with Spain (1851), with Austria (1855), with Mussolini's Italy (1929) and with Nazi Germany (1933).

Congo Crisis (1960-63). In the face of a strong national upsurge, the Belgians granted independence to Congo on 30 June, 1960. The new Republic of Congo was set up with Kasavubu as President and Patrice Lumumba as Prime Minister. But soon after the country was riven by strife and violence, a section of the Congolese Army revolted, President Kasavubu and Premier Lumumba became at odds and Moise Tshombe, head of Katanga, the Republic's richest and largest province, announced its secession from the Republic in July, 1960. Premier Lumumba, finding that some remnant Belgian elements and European mercenaries were behind Tshombe's secessionist move, called upon the U.N. for help. U.N.O. decided to send a U.N. force to Congo and to demand the withdrawal of all Belgian troops and white mercenaries. While India and some other countries donated troops, America provided transportation facilities, improved communications, military supplies and a cash grant of \$5 million.

At this time, President Kasavubu dismissed Premier Patrice Lumumba and, in return, was dismissed by the latter. The two factions struggled against each other for superiority. Kasavubu, who had a U.N. force of some 20,000 troops derived from 13 member nations, turned Lumumba over to Moise Tshombe and in Feb., 1961, Lumumba was mercilessly murdered by Katangan tribesmen. Congo had, a little later, three governments — the Central Govt. at Leopoldville of President Kasavubu, with Ileo as Prime Minister, the secessionist mineral-rich Katanga govt. of Moise Tshombe at Elizabethville and the Stanleyville government of the followers of Patrice Lumumba. Regarded as pro-Communist, the Stanleyville faction had the backing of Communist bloc of countries. Under the circumstances, President Kasavubu decided to appoint the moderate Cyrille Adoula as the Prime Minister in the hope that he would unify the country. The U.N. backed Adoula to end the domestic chaos but Tshombe refused to oust the mercenaries and the civil war spread. (In September 1961, Hammarskjöld, on his way to meet Tshombe to try to persuade him to agree to a cease-fire, was killed in an air crash.) The U.N. ordered its forces to bring the recalcitrant Katanga to terms. In December 1962 the U.N. Army overran Katanga and compelled Tshombe to end secession in January, 1963. The U.N. forces were withdrawn in June, 1964. Kasavubu sprang a surprise for the whole world when he appointed his arch enemy Moise Tshombe as his Prime Minister. Tshombe also patched up with Antoine Gizenga,

his pro-Lumumba pseudo-Communist rival, and brought him into his cabinet. Having pacified his enemies, Tshombe played a rival again to Kasavubu in a fierce power-struggle but lost to the President. In November, 1965 General Mobutu, the Army chief, staged a coup d'état, ousted President Joseph Kasavubu, annulled the Presidential elections and installed himself the Head of the State.

Continental System. By the Decree of 21 November, 1806, Napoleon imposed a blockade of Britain by closing all continental ports to British commerce. The system was later extended to Russian, Spanish and Portuguese ports. Adherence by the above countries to this blockade was partial and in 1809 Napoleon had to withdraw the blockade especially because it had hit hard the French middle classes which were Napoleon's main pillars of strength.

Cooperative Movement. Cooperative movement is the voluntary effort of people for self-management of economic enterprises both productive and distributive. Consumers' cooperatives are organised for distribution of products cheaply with no or few middlemen. Producers' cooperatives in which workers own the enterprises are very few. The idea of cooperation was first mooted in the 19th century by Robert Owen, followed by the founding in 1844 of the Rochdale Society. In present times, cooperatives exist throughout the world.

Cuban Crisis, The. In December, 1958, the Cuban Army, which had been the mainstay of President Batista's regime, defected and Fidel Castro, a young rebel in hiding, came to power in Cuba. On 1 January, 1959, Batista fled to Dominican Republic and a little later, Castro became the Prime Minister of the Island. After Castro's visit to Moscow in April, 1959, Russia agreed to buy Cuban sugar, give large economic aid and sell military hardware to Cuba. In Cuba, all American properties were seized. As a consequence, the U.S. made a cut in the Cuban sugar imports. In January 1961, Cuba demanded a cut in the number of U.S. diplomatic representatives in the island. America countered this by promising \$4 million aid to anti-Castro Cuban refugees in the U.S.A. Cuba seized the water company that supplied the Guantanamo Naval Base (of U.S.A.). The Americans dreaded that Cuba was fast turning into a Communist bastion from where the U.S. and Latin America would be subverted. On 15 April, 1961, three unidentified (presumed American) planes attacked some Cuban territories and two days later about 1,500 Cuban refugees in exile landed at the Bay of Pigs in Las Villas province. The invaders were routed with little difficulty; hundreds of them were killed, the rest were taken prisoners. At this time, Russia entered the fray and promised all assistance to Cuba against U.S. aggression.

In 1962, the rumours were rife that Russians were building missile bases and launching pads in Cuba. American reconnaissance flights confirmed these reports and indicated existence of Russian bombers and also missiles being readied on their pads. On 22 October 1962, President Kennedy imposed a strict quarantine of all offensive military equipment being shipped to Cuba, closer surveillance of the Island (while keeping U.S. forces in readiness), sought support of O.A.S. and N.A.T.O., asked U.N.O. for prompt

action and appealed to Prime Minister Khrushchev to help eliminate the provocative threat. The quarantine began on 24 October and the U.S. threatened to search any ship leading towards Cuba. At this tension-charged moment, it appeared that the world was standing on a precipice and a disaster was imminent. But sane counsel prevailed and, while Russia agreed to dismantle her bases and remove bombers from Cuba under U.N. supervision, the U.S. in turn agreed to lift the blockade and not to invade Cuba. The world was thus spared the fantastic nuclear holocaust in which the present civilization built over a period of last three thousand years would have been choked out of existence.

Delhi Durbar of 1911. In 1911, King George V and Queen Mary held a great Durbar in Delhi. It was at this Durbar that the formal announcement about the shifting of the Capital from Calcutta to Delhi was made. The Delhi Durbar was the only state occasion of its kind held by a British Emperor in person in India.

Din-i-Ilahi. The religion that Akbar founded during his reign. The theological discussions at his court among the learned of the different faiths, their arguments, their frenzy and partisanship made him anxious to salvage the real religion from the confusion around. Thus Akbar planned a new synthesis of conflicting creeds that could produce a composite culture and religious philosophy. He emphasised the value of independent judgment and appealed to men's higher conscience to see through the evil of superstition, dogma and formalism. Din-i-Ilahi was the embodiment of all what was good in all religions and was a combination of mysticism, philosophy and nature worship. "Din-i-Ilahi" found itself friendless after the death of Akbar and, in reality, died with the emperor. (*U.P. Civ. Ser.*, 1963)

Doctrine of Lapse. In the first half of the nineteenth century, the East India Company pursued a ruthless policy of annexation on various pretexts but mainly on a three-fold basis namely ; (i) Right of conquest (Punjab, Pegu in Burma and a portion of Sikkim); (ii) Doctrine of Lapse and (iii) Misrule (Oudh). According to the Doctrine of Lapse, the dependent States of India lapsed to the paramount power (East India Company) on the death of a ruler who had no natural heir to succeed him. Lord Dalhousie in particular refused the right of adoption to such rulers. The States thus annexed were *Satara, Jhansi, Nagpur, Jaipur*, and *Sambalpur*. Rigorously applied during the period 1834 to 1850, the Doctrine was, however, abandoned after the Mutiny of 1857.

Fabian Society. A movement of predominantly middle-class intellectuals founded in 1884 to propagate socialism by means of the steady and deliberate methods. Fabians repudiated the Marxist class struggle and believed in natural development of socialism after a long period of evolution and universal suffrage. Among early Fabians were G.B. Shaw and Sidney and Beatrice Webb. Later, the Society acted as a research laboratory for the British Labour Party.

Five Year Plans. The concept of expanding industry and agriculture by systematic and planned effort was first evolved in Russia during the early years of Stalinistic rule. First Five Year Plan (1928-32) brought about a gigantic economic and social revolution, involving tremendous initial suffering to the people. But two subsequent plans brought about not only considerable relief but also put the Russian economy on a sound footing. After independence, the idea of planned development has been extremely popular in India and the Fourth Plan has been launched from 1969. The earlier three Plans have handsomely contributed towards development of economy in the various fields.

Fourteen Points. A statement defining war aims made by President Wilson of the U.S.A. in a speech on 8 January, 1918. Briefly the points were : 1. Renunciation of all secret diplomacy. 2. Freedom of seas. 3. Removal of economic barriers. 4. Reduction of armaments. 5. Impartial adjustment of colonial claims. 6. Evacuation of Russian territory. 7. Restoration of Belgium. 8. Liberation of France and return of Alsac-Lorraine. 9. Readjustment of Italian frontiers along clearly recognisable lines of nationality. 10. Autonomous development for the peoples of Austria-Hungary. 11. Evacuation of Rumania, Serbia and Montenegro with Serbia receiving access to sea. 12. Self-development of non-Turkish peoples of the Ottoman Empire and free passage of Dardanelles. 13. Creation of an independent Poland with free and secure access to the sea. 14. Formation of a general association of nations to guarantee the political independence of all states.

These principles were broadly accepted by the Allied powers as a basis for peace in November, 1918.

Free French. The name given to the Frenchmen of the Second World War (1939-45) who supported Gen. de Gaulle when he flew to London in June 1940. De Gaulle appealed to his countrymen to reject the armistice (reached between the Germans and the Vichy regime of Marshall Petain) and continue resistance. This paved the way for the establishment of the French Provisional Government at Algiers in 1943.

Free Trade. The conception of "Free Trade" envisages free flow of imports and exports without any duties imposed on them. The concept, which got currency after publication in 1776 of Adam Smith's celebrated "Wealth of Nations", was based on the assumption that imports pay for exports and the free flow of foreign trade promotes international unity and co-operation.

French Revolution. The movement, followed by large scale upheavals of far-reaching nature, which began in France in 1789 and which affected the whole world. The immediate cause of the revolution was the bankrupt state of public treasury. The wars of the 17th and 18th centuries, an iniquitous and inefficient system of taxation and governmental waste had resulted in a gigantic public debt which could not be liquidated. Side by side with this state of affairs, writers like Voltaire, Rousseau and

others were teaching the people new ideals which found ready acceptance in the towns. Rousseau preached the natural rights of man and the idea of a state in which the general will was supreme. Thus people began to see that there was no justification for the hideous inequalities which prevailed everywhere in the country.

On 14 July, 1789, a furious French mob destroyed the Bastille. The "tricolour" was adopted the flag of revolution and talk of a Republic got currency. The nobles and aristocracy fled to England and elsewhere. In 1791, the King himself tried to escape but was stopped in time. Foreign interference gave rise to the emergence of extreme Republicans, chiefly Jacobins and Girondins. A republic was established and on 21 January 1793, after a trial the King was executed. Thousands were put in the prison. A Committee of Public Safety was established and the Reign of Terror began. Thousands of nobles, aristocrats and politicians were sent to the guillotine. In 1795, the Directory was established and the French Revolution was over. The French Revolution was an event of fundamental importance not only to France but to whole Europe. For Europe, the Revolution represented an ideal of popular sovereignty and equality before the law. Its legacy was the two cardinal features of nineteenth century Europe—liberalism and nationalism.

Glorious Revolution. (1688). The Glorious Revolution represents that event in 1688 which brought William and Mary, Prince and Princess of Orange, to the throne of England to save the liberties of England and the Protestant religion, both of which were in jeopardy in the reign of King James II. They arrived on 5 November, 1688 and James II fled to France. Early in 1689, they became the King and Queen not as heirs by blood but by an Act of Parliament. Their accession was the culmination of a long struggle between the King and the Parliament.

Habeas Corpus Act (1679). The Habeas Corpus Act, passed by the British Parliament in 1679, during the reign of Charles II, was intended to prevent the Crown from detaining prisoners without bringing them to trial. By this Act, the jailer could be compelled to produce his prisoner before a judge and state the cause of detention. It also made the issue of a writ easier and prohibited the sending of prisoners overseas to avoid the writ.

(I.A.S., 1956)

Haldighat, Battle of (1576). Determined to destroy Rana Pratap's power and annex Mewar to the Mughal empire, Akbar despatched Man Singh and Asaf Khan with a strong force to effectively deal with the Rana. The Mughal and the Rajput armies met at Haldighat and fought a fierce battle. The odds appeared to be against the Rana who suffered a defeat and retreated to the hills. Later he was successful in retrieving a part of his lost territory.

Hallstein Doctrine. Propounded by Dr. Konrad Adenauer's government of West Germany, the Doctrine enjoins West Germany to withdraw recognition from any country (except USSR) which recognizes the East German regime. The West German Govern-

ment, according to it, is the sole and the only rightful successor to the former Reich and, therefore, the exclusive representative of all Germans. Notwithstanding this Doctrine, West Germany has herself established diplomatic relations with Soviet Union, Yugoslavia and Rumania which have recognized the East German Government, nor has she broken diplomatic relations with Iraq, Cambodia and Sudan which have since recognized the East German regime. Latest developments in Europe indicate that West Germany no longer attaches any importance to the doctrine.

Hindu Renaissance or the Golden Era of Indian History.

The Gupta Age is considered as the Golden Era or the Augustan Age of Indian culture. During this period, Indo-Aryan culture witnessed a glorious revival in all its aspects—political, religious and literary. The Guptas had driven away the Kushan power beyond Indus, humbled the Sakas and destroyed the last vestiges of foreign power in India. Associated with the religious revival was the revival of Sanskrit literature. The Guptas made Sanskrit, as the court language and such excellent gems of secular literature as *Sakuntala*, *Malvikagnimitra*, *Mudra Rakshasa*, *Raghuvansa* and *Kumarsambhava* were the product of this age. Art and learning enjoyed royal patronage. The decimal system of notation was discovered during the age. The country enjoyed peace and prosperity. Trade and commerce flourished. There were conditions of plenty.

Indian Mutiny (1857-58) or War of Indian Independence. The Indian Mutiny or the War of Indian Independence, as is popularly termed by Indians, has attracted considerable controversy in recent times. While it began with the disaffection of some Bengali soldiers followed by open revolt at Meerut, the insurrection was soon joined in by dispossessed zamindars and talukdars, princes and nawabs, deprived of their estates, titles and pensions and by the soldiery and officers of the escheated principalities whose occupation had been taken away. The conservative section of the people was seriously perturbed at the progressive trend of the British rule which, if allowed to affect the Indian mind, seemed to threaten their ancient social order. The trouble was, however, limited to some areas of Central India. The Punjabis—who had a little time ago been subdued by the British with the active assistance of some Indian rulers and the native soldiery—remained aloof or sided with the British; many Indian soldiers fought side by side with the English soldiers against the mutineers; Southern India remained absolutely quiet; Nepal sent a Gurkha Army to put down the revolt in Oudh; and it was only in Oudh and Rohilkhand that the mutiny assumed the character of a national rising.

Its causes. (i) The policy of annexation as a natural corollary to the Doctrine of Lapse, formulated in 1834 and rigorously implemented in relation to dependent States. Lord Dalhousie refused to recognise the States' right to adoption on the failure of natural heirs and annexed many States by claim of suzerainty or paramountcy. (ii) The spread of education, the suppression of such evil customs as sati, the remarriage of widows, the construction of railways and telegraphs, and the activities of Christian missionaries had created

feelings of uneasiness and apprehension about the future of Indian customs and culture. (iii) General aversion to foreign rule. (iv) Improper treatment accorded to the Mughal King and the feudal rulers. (v) Lax discipline in the Army and inequality of salaries and benefits to Indian and British soldiers. (vi) Aversion of Bengali soldiers to go overseas on passage of General Services Enlistment Act. (vii) Issuance to Indian soldiers of cartridges greased with the fat of pigs and cows, the one an unclean and the other a sacred animal.

The events. After outbreak of trouble first at Barrackpore and then at Berhampur in Bengal, the mutiny spread to Ambala in Punjab but the outbreaks were put down and Indian regiments disbanded. The decisive outbreak occurred at Meerut where 85 sepoys of a cavalry regiment refused to use the greased cartridges and mutinied. They were arrested. In all, three regiments broke into open rebellion, shot down their English officers, broke open the prisons, released their fellow mutineers and marched off to Delhi. The rebels, joined by Delhi soldiers and volunteers, took possession of Delhi city, the palace and the Red Fort, killed the Europeans and restored the imbecile Mughal ruler, Bahadur Shah, to the throne. Later, the mutiny spread to Lucknow, Bareilly, Kanpur, Agra, Jhansi, Central India, Bundelkhand and some other places.

Suppression of Mutiny. After a 4-month siege, Delhi was reoccupied by the English forces, the aged emperor was taken prisoner and exiled and his two sons mercilessly shot down. In Lucknow and Kanpur General Outram and Havelock gained decisive victories over Nana Sahib and Tantia Topi, the leaders of mutiny, but not before hundreds of Englishmen, women and children were butchered by the mutineers. Rohilkhand was similarly captured. The rebellion in Central and Bundelkhand was led by the spirited Rani of Jhansi and the able Tantia Topi. In a fierce battle that raged between the English and the rebels, who had captured Gwalior and proclaimed Nana Sahib as Peshwa, the brave Rani, clad in male attire, died in the field, fighting and leading her men. Tantia Topi fled to the South but was captured and hanged. Nana Sahib escaped and was heard no more. The mutiny had come to an end.

Why did Mutiny fail? (i) The Mutiny failed mainly because there was complete absence of unity of purpose among the rebels. The outbreak was the result of spontaneous hatred against the English but it lacked planning and direction of military nature. The Bengali sepoys wanted to revive the Mughal empire. Nana Sahib schemed to establish his own hegemony, and Rani of Jhansi fought to retrieve her own State. Political rivalries between the Peshwa and the Mughal Emperor and the various animosities between the Hindu and Muslim rebels had menaced the revolution. (ii) The Mutiny was localised and most areas remained unaffected. (iii) The rebels definitely failed to produce a great leader who could inspire confidence. Rani of Jhansi, no doubt capable, was a woman. (iv) With few exceptions, the feudal princes sided with the British. Thus Dinkar Rao of Gwalior and Salar Jung of Hyderabad were a great help to the English. (v) English soldiers were better trained, better

armed, better fed and better organised. (vi) Punjab, the traditional sword-arm of India, remained indifferent or hostile towards the rebels.

The Results of the Mutiny. (i) East India Company was disbanded and India was brought under the direct rule of the Crown. (ii) British Government scrapped the Doctrine of Lapse and the annexation policy. (iii) The Government recognised the principles of decentralization and Indianization, thus paving the way for provincial autonomy and participation of Indians in administration. (iv) Reforms were introduced in the Army. British troops were increased and the artillery was kept in their charge only. Distinction was made among martial and non-martial races and the recruitment policy was geared accordingly. (v) The English felt less eager to change the socio-economic structure of the Indian masses and retired to their own shell of conservatism. The demand for reforms etc. now came only from the people themselves and the government rather proved a retarding agent. (vi) Fiction of Mughal rule ended with the ouster and exile of Emperor Bahadur Shah (who died an ignominious death in Rangoon). Hereafter the British paramountcy became an established fact and the government began to show an increasing tendency to interfere in the internal affairs of the Indian States. (vii) The Mutiny provoked excesses on both sides and left a legacy of resentment.

Industrial Revolution. It roughly refers to the period 1750-1850 in which striking changes in economic structure took place and England was transformed from an agricultural to an industrial country. It was marked by the substitution of steam for hand labour and by building of factories. England became world textile centre and there were such inventions as Arkwright's spinning frame (1769) and Edmund Cartwright's powerloom. Coke was used in iron production. Industrial towns sprang up and in the 19th century, steamboats and railways effected yet new changes. The discovery of electricity a little later almost worked wonders.

(N.D.A., 1965)

International Socialism. The First International Workingmen's Association (briefly called First International) was founded in London in 1864 by Karl Marx to co-ordinate the efforts of workers for the establishment of socialism in all countries. Dissensions caused its liquidation in 1874. In 1889, the Second International was established in Paris and it lasted till the First World War. The Third International or Comintern was formed after the Bolshevik revolution in Russia with a view to generating similar revolutions in other countries but was dissolved in 1943 as a gesture of assurance to Russia's capitalist allies in the War.

Kalinga, War of (261 B. C.). About a decade after his conversion as a Buddhist, Ashoka invaded the Kalinga territory in 261 B.C. The Kingdom of Kalinga was considered one of the most powerful ones at that time. The war resulted in considerable loss of life and brought misery and suffering to the people. It made such a great impression on Ashoka that he turned a Buddhist monk, renounced war and violence and thenceforward led a life of strict abstinence and piety.

Kellog Pact (1928). A Pact initially between France and the U.S.A., concluded in 1928 to renounce war as an instrument of national policy. Later, about 60 other countries signed it. The Pact was regarded as a significant advance towards the pacific settlement of disputes. The Pact had, however, no provision for punishing the aggressor.

Korean War. The three Allied leaders, Roosevelt, Churchill and Chiang Kai-shek, in their meeting at Cairo in November, 1943 decided that after liberation, Korea would become free and independent. Two years later at the Potsdam Conference, Stalin gave his approval to the earlier proposal. Allied military leaders also agreed that the Russian troops, which had already overrun most of Manchuria, should win back territory north of 38th parallel and the American forces should seize the territory south of it. Subsequently, the Japanese south of the line surrendered to the Americans and those in the north to the Russians. Throughout 1946 and 1947, the efforts to reunify Korea failed due to (i) opposition of Dr. Syngman Rhee to Russian-American trusteeship; (ii) emergence of scores of political parties in Korea ready to seize power; (iii) Russian attempts to resurrect communist and socialist groups. The result was that the Korean problem was referred in September, 1947 to the United Nations which appointed a temporary Commission to conduct elections in Korea. When the Commission members arrived, the Communists refused to let them go to North Korea, i.e., north of 38th parallel. As a result, the Republic of Korea was established south of 38th parallel on 10th May, 1948. The first elections held in July that year returned Dr. Syngman Rhee to power, the government functioning in the capital at Seoul. On 1st January, 1949, the U.S. recognised the Rhee Govt. of South Korea. In the meantime Communist Govt. in the north was organised at Pyongyang and in September, 1948, it claimed complete jurisdiction over whole of Korea.

On 25th June, 1950, North Korean forces crossed the 38th parallel and invaded South Korea. America ordered Gen. MacArthur, the American Commander in Japan, to send all possible help to South Korea. The Security Council in an emergency session asked North Korea to withdraw her forces back to the 38th parallel and also directed the member nations to render all possible help to South Korea. In response to the UN request, 16 nations contributed military contingents of various sizes to the defence of South Korea. All UN forces were fighting war under the command of Gen. MacArthur. But the situation in Korea was rather bad. After overrunning feeble opposition, the North Korean forces by mid-September had occupied most of Korea except a small pocket surrounding the port of Pusan in the South-east. However, on 15th September, 1950 the UN forces launched the counter-offensive with the spectacular amphibious landing at Inchon, near the 38th parallel thus outflanking the invaders. Seoul was taken after the communist rout and by the end of the month the whole of South Korea had been cleared by the UN forces. By the first week of October, the UN forces, after crossing 38th parallel, had virtually reached Manchurian border.

At this time China entered the fray. With a massive strength of over 200,000 men, the Red Chinese crossed into North Korea and threw the UN forces back in disorder, pushing them right to the coast wherefrom they had to be evacuated by the U.S. Navy. Seoul was again captured by the Communists. MacArthur, undaunted by temporary reverses, launched another counter-offensive, captured Seoul, crossed the 38th parallel and was again in North Korean territory. But by this time, he had started thinking aloud of the American inaction in regard to Chinese threat. This resulted in his recall in April, 1951. General Mathew Ridgway succeeded MacArthur, as U.N. Commander-in-Chief. The ding-dong battles continued till 27th July, 1953 when an armistice agreement was signed. Under its terms, a cease-fire was effected, compromise on prisoners' exchange was devised and a political conference was agreed to be held later to sort out problems of withdrawal of foreign troops and Korean unification. The repatriation of prisoners was completed on 11th September, 1953, followed by discussions about Korean reunification in October the same year. These negotiations failed to achieve any result. The division of Korea into the Communist North and Democratic South became almost permanent. The war took a high toll of human life and property. 35,000 Americans lost their lives and another 100,000 were wounded. America spent about \$ 20 billion on this war. Human losses on the communist side were heavier.

Ku Klux Klan. An American secret society, originally founded in 1866, disbanded in 1869 and revived in 1915, to re-establish white supremacy in the Southern States of the U.S.A. The Klans terrorised the Negroes and their sympathisers, Roman Catholics and Jews. After World War II, the society was banned and all attempts to revive it were frustrated.

Kulaks. A class of former Russian peasants who came to possess land after Russian reforms of 1906. They continued to remain untouched after the Russian Revolution because the Communists thought agriculture would be adversely affected. They were, however, dispossessed in 1929 when agriculture was re-organised into "Kolkhoz" (collective farms) under government supervision.

Kuomintang. Chinese Nationalist Party, formed in 1891 by Sun Yet-Sen. After the 1911 revolution, it ruled in Southern China until 1926-27 when Chiang Kai-Shek succeeded with Russian aid to capture North China. In 1928, Kuomintang established its effective government and faced throughout 1930's the Japanese onslaughts with determination. But by 1945, the party had lost its hold on the people due to political uncertainty and various economic difficulties. The Communists, under Mao Tse-tung, took advantage of the situation and rose in rebellion. In the Civil War that followed, the Kuomintang government suffered defeat and fled to Formosa.

League of Nations. Created in 1920 with headquarters at Geneva, the League of Nations was meant to preserve world peace and settle international disputes by arbitration or conciliation. It had several allied bodies like the World Court and International

Labour Organisation. The formation of the League had been advocated during the First World War by both Britain and U.S.A. The latter, however, withdrew from the organisation when the U.S. Congress refused to ratify the treaty. The League had no army of its own and its only punitive measure was "sanctions" which were never applied rigorously. Moreover, powerful members refused to abide by its decisions and insisted on national sovereignty. It failed to prevent Japanese aggression in Manchuria and China, Italian aggression in Abyssinia or the Russian attack (in 1939) on Finland. On dissolution in 1946, it handed over its functions to the newly formed United Nations Organisation.

Magna Carta. After the death of Richard I in 1199, John, the youngest son of Henry II, became the King of England. He antagonised the people, the Church and the Barons who now joined together to break down the King's tyranny. Finding that the odds were against him, he gave in, met the people on a meadow called Runnymede, by the banks of the Thames, on 15th June, 1215 A. D. and signed the document "Magna Carta" or the Great Charter. This was the beginning of the English liberty. According to the Charter, the King agreed to respect the rights of the people and the Church and freedom of trade. Justice was to be denied to no man and no free man was to be arrested or imprisoned except according to law. Thus it laid the foundation of the rights and political liberty of Englishmen. It was rightly called later by Pitt as the "Bible of English Constitution".

(U.P., Civ. Ser., 1963 ; I. A. S., 1966)

Manchu Dynasty. The Imperial Chinese Dynasty that ruled China from 1644 to 1912 when its last King, Emperor Pu-i was forced to abdicate after the Chinese Revolution.

Mensheviks (See under Bolsheviks).

Monroe Doctrine. Dual principle of American foreign policy enunciated in President Monroe's Message to the Congress in 1823. The doctrine was prompted by two diplomatic problems : (i) minor clash with Russia concerning North Western coast of North America and (ii) the fear that European governments would seek to interfere in the affairs of Latin American countries. The Doctrine maintained : (a) no future European colonisation of Americas; (b) no European interference in American nations; (c) political systems of Americas were different from the European systems; and (d) no American interference in the European countries or their colonial territories.

(P. C. S., 1960)

Munich Pact (29-30 Sep., 1938). Agreement signed at Munich, Bavaria, by Britain, France, Germany and Italy (but not Czechoslovakia) permitting the occupation of the Sudetenland in Czechoslovakia by Germany. Poland seized Teschen district and Hungary seized Southern Slovakia. It was widely believed at the time that the Western appeasement policy had averted the imminent danger of war but the following year Europe was in the throes of a major conflict.

Mysore Wars. In 1766, the Marathas, the Nizam and the English had formed an alliance to check the power of Haider Ali, ruler of Mysore, but the latter succeeded in breaking this combine.

Haider Ali plundered Carnatic and appeared at the head of a large Army at the gates of Madras. The Madras Government was forced to accept the terms of peace dictated by Haider Ali. Thus ended the *First Mysore War*. The *Second Mysore War* (1780–84) arose out of the English seizure of Mahe port. Haider Ali defeated the English forces, led by Col. Baillie. In 1784, after the death of Haider Ali, the Treaty of Mangalore ended the war with very humiliating terms for the Madras Government. The *Third Mysore War* (1792) was a deliberate attempt on the part of Lord Cornwallis to avenge the earlier reverses. The English provoked Tipu to attack Travancore. The combined forces of the English and Marathas defeated Tipu and by the Treaty signed in 1792, the Sultan lost half of his dominion. The *Fourth Mysore War* (1792) was the result of Tipu's feverish efforts to seek French help to defeat the British. This time the English and the Nizam's armies defeated Tipu, who was killed in action. Mysore was annexed and a part of it was given over to the Nizam.

New Deal. The social and economic reforms launched by President Roosevelt after the World Depression. They included financial and banking reforms, reforestation projects, extensive public works, creation of Tennessee Valley Authority (TVA), social security measures and guarantees to the small farmer.

New Economic Policy (N.E.P.). Following the wide-spread peasant unrest and riots in Russia, Lenin launched in 1921 the New Economic Policy (N.E.P.). This was a programme for economic reconstruction of war-torn Russia. It restored a limited system of private enterprise in internal and foreign trade, banking and agriculture. The programme was withdrawn in 1929 after the launching of the First Five Year Plan.

Panipat, Battles of. *First Battle of Panipat* (1526) was fought between Babar, the Mughal invader and Ibrahim Lodi, the Delhi Sultan. Babar secured victory over the Sultan. About 20 thousand people perished on the battle-field. The Lodi Kingdom met its end and the Mughal Dynasty was founded on its ruins. *Second Battle of Panipat* (1556) was fought between Akbar, the grandson of Babar, and Hemu, who aspired after the empire of Hindustan. Hemu was defeated and his army was crushed. The victory made Akbar supreme in North India. *Third Battle of Panipat* (1761) was fought between Ahmad Shah Abdali on one side and the combined forces of the Marathas and the Mughal empire on the other. The crushing defeat that the Indian forces received at the hands of Abdali destroyed all semblances of Mughal authority and Maratha supremacy in the North. The stage was thus cleared for the English to step in.

(U.P. Civ. Ser., 1963 ; S.O., 1964)

Pearl Harbour, Attack on. The key American Naval Base in Pearl Harbour was the scene of a sudden, unprovoked attack by Japanese aircraft on 7th December, 1941. In a matter of just two hours, the Japanese had sunk or damaged 20 ships, destroyed 120 aircraft and killed 2,400 American soldiers. The following day, 8th December, America declared war on Japan. The attack on

Pearl Harbour gave Japanese an initial edge over America whose sea-power seemed to have been crippled for the time being.

(S.C.R.A., 1966)

Plassey, The Battle of. The battle of Plassey was the result of a conspiracy, hatched by Clive in collaboration with Mir Jaffar and some disaffected nobles of Nawab Siraj-ud-Daula to overthrow the Nawab. The battle was won by the English who now became supreme in Bengal.

Porus, Battle with. After accepting Ambhi, the King of Taxila, as his vassal, Alexander marched towards Jhelum in 326 B.C. to meet Porus in the battle-field. The main encounter took place in Kurri plain. The elephants which were the main strength of the Indian Army ran back in confusion, trampling their own men. The Greek proved better strategists and by lightning flanking movement, their cavalry attacked the Indians from the rear. Thousands of Indian soldiers were killed and Porus himself was wounded and captured. Alexander, however, treated him magnanimously and returned him his territory as well as the throne.

Renaissance or Revival of Learning. In 1453, Constantinople was captured by the Turks. Their seizure of this old seat of classical learning resulted in migration to Italy of Greek scholars who brought with them literature of ancient Greece and Rome. This literature and the knowledge of great scholars generated cultural and intellectual currents that reached highest flower in the 15th and 16th Centuries in Italy. From Italy, Renaissance spread to Europe. Important figures of Italian renaissance were Leonardo da Vinci, Michelangelo, Guicciardini and Machiavelli. Other important figures connected with the period were Erasmus (a Dutch) and Rabelais and Montaigne (Frenchmen). Renaissance gave birth to humanism, a kind of revolt against medieval religious authority and attitudes. Humanists like Boccaccio, Petrarch, John Colet and Sir Thomas More were the product of this movement.

Rights of Man, Declaration of the. It is the historic French document that was embodied as preamble to the French Constitution of 1791. Based on Rousseau's theories and on the American Declaration of Independence, it sought to preserve and ensure the basic human rights like liberty, equality, property, security, resistance to oppression and sovereignty of the people.

Russian Revolution. In World War I, Russia had suffered five and a half million casualties; troops were short of ammunition and people of food. There was political and economic chaos and the governmental authority vacillated. At this time, there appeared to be two groups of revolutionaries, the liberal intelligentsia and the Bolsheviks, who staged the two Revolutions of February and October, 1917 respectively. There were strikes and widespread riots in Petrograde on 8th March, 1917. (According to Russian Calendar 24th February). On the 12th March, Duma (the Russian Parliament) established a Provisional government under Prince Lvov, in defiance of the Tsar. Lvov's Govt. favoured the continuance of War and thus came into conflict with the Soviets, headed by Lenin. In July, Lenin made an abortive attempt to seize

power but was forced to flee to Finland. The Bolsheviks, however, seized power on 6th November and Lenin promised the people peace, land and bread. The workers were given control of the factories, private trade was prohibited and the properties of the Church and others were confiscated. The first constitution was promulgated in the following July. The Revolution sent the country in the throes of a civil war that lasted for three years and which resulted in the ultimate victory of Lenin's forces. (I.A.S., 1966)

Russo-Japanese War (1904-05). The rival claims of Russia and Japan to Manchuria and Korea were the cause of this war. Russia, which had already penetrated these areas, refused to negotiate with Japan for their division into "spheres of influence". In 1904, Japan, without declaring war, attacked Port Arthur and captured it. The Russians were routed at Mukden and Tsushima. Later, American mediation brought peace between the two nations. Russian defeat was one of the factors contributing to the Revolution of 1905 in that country.

Sikh Wars, The. Ranjit Singh had all along maintained friendly relations with the English. After his death in 1839, the war of succession almost ruined the ruling family and rendered the Army leaderless. The ministers thought it expedient to have the Army's power reduced by bringing it into conflict with the English. *The First Sikh War (1845)* started when the Sikh Army crossed Sutlej in 1845 at which the Company declared war. In the battle at Mudki the Sikhs were defeated. The next battle was fought at Ferozshah where neither side triumphed. This was followed by bloody battles at Aliwal and Sabraon in which the Sikhs had an edge over the English but lost due to the treachery of their generals. By the Treaty of Lahore, the Sikhs ceded all lands East of Sutlej to the English and agreed to reduce the Army. Kashmir was sold to Gulab Singh for half a million rupees. In 1849, Mulraj, the Sikh Governor of Multan, raised the standard of revolt against the English-led Lahore Durbar in 1849. The Sikh force sent under Sher Singh to subdue him went over to the Governor. Thus started the Second Sikh War. A drawn battle was fought between the English and the Sikhs at Chellianwala in which the English appeared to have suffered heavy losses. The Sikhs were, however, routed in a decisive battle at Gujrat by Lord Gough. The Punjab was annexed and Maharaja Dalip Singh was pensioned off.

Spanish Civil War (1936-39). A group of Spanish Army, led by Generals Sanjurjo and Franco, revolted against the Socialist regime of President Azana. The civil war began in Spanish Morocco on 18th July, 1936. While Russians sent advisers and technicians to the Spanish government, some others raised an international brigade to fight the Franco forces. Germans and Italians aided Franco with men and material. German air power did a decisive blow to the government forces. Franco won the war but not before losing three quarters of a million lives.

Suez Canal Crisis, The. With the ouster of King Farouk of Egypt in 1952 and the emergence a little later of Gamal

Abdal Nasser as the leader of Arab nationalism, the whole Arab activity gathered round two objectives namely ending the domination by West in the Middle East and driving away the Jews from Israel. Great Britain withdrew her troops from Sudan by the end of 1956. In the meantime the US signed the Baghdad Pact with Great Britain, Turkey, Iran, Iraq and Pakistan to check the possible Russian inroads in the area after elimination of British influence. In 1955, Russia and Red China promised to barter planes, guns and tanks for Egyptian cotton. The same year America offered loans and aid to Egypt to build the Aswan Dam but much of this goodwill was lost when she adopted dilatory tactics, followed by a curt refusal. President Nasser replied by nationalizing on 26th July, 1956 the Suez Canal, whose stock-holders were principally French and British, with a view to turning its annual income of 25 million to the construction of the Aswan Dam.

On 29th October, 1956 Israel invaded Egypt and swept across the Sinai Peninsula, most of the Gaza strip and the Gulf of Aqaba, capturing many prisoners and huge quantities of military equipment. The Great Britain and France opened their air attack on 31st October, followed by landing of troops. However, the United Nations intervened and asked the invaders to withdraw to the armistice line of 1949. The Soviet Union not only issued a potentially serious warning to the English and French to stop aggression against Egypt but also proposed joint action with the United States, to end the aggression. Deserted by friend and foe alike, the invading countries agreed to a cease-fire on 6th November, 1956. A UN Emergency Commission was appointed to supervise the carrying out of terms of agreement. By the end of the year, all Anglo-French forces had been evacuated followed by Israeli troops a couple of months later. Egyptian right to nationalize the Canal was confirmed.

Taimur's Invasion of India (1398 A.D.). Taimur, head of the Chaghtai Turks, made himself master of Central Asia and in 1398 embarked on the conquest of India. He captured Multan and Lahore and after defeating Sultan Mohammad II, entered Delhi. His armies looted and plundered the city for days. About a lakh of Hindus were mercilessly killed before the "scourge of God" left the Indian frontiers.

Teheran Conference (1943). President Roosevelt, Mr. Churchill and Stalin held a conference at Teheran from 28th November to 1st December, 1943. Agreement was reached regarding the Allied landing in France, the Soviet offensive against Germany and establishment of an international agency to keep the peace after the war ended.

Third Reich. Name of the Nazi regime in Germany from January, 1933 to April, 1945. The regime was headed by Adolf Hitler.

Third Republic. The governmental system of France between 1870 and 1940, established after the capture of Napoleon III

at Sedan and ending with Petain's assumption of powers at Vichy after the Germans overran France.

Trafalgar, Battle of (1805). Fought on 21st October, 1805 between the French Fleet and the English Fleet, led by Nelson, this battle proved a decisive naval action of Napoleonic Wars. In this encounter, the French losses were heavy. Nelson won the battle but lost his life. Napoleon, after his discomfiture, abandoned all plans of launching a naval attack against England across the Channel.

Versailles, Treaty of. Concluded on 28th June, 1919 between Germany and the Allied Powers after the end of World War I, the terms of the Treaty included, among other things, surrender of all German colonies, return of Alsace, Lorraine to France, cession of Prussian Poland, parts of East Prussia and Upper Silesia to Poland, cession of Danzig, occupation of Saar by France, payment of a heavy sum of reparations, limitation of the German Army and considerable reduction in its weaponry. Hitler, after he came into power in 1933, consistently refused to consider himself bound by the Treaty.

Vichy France. Name of the Vichy Government of France during World War II. Established by Marshal Petain, it controlled that part of France which was not occupied by Hitler and those colonies in Africa which were not controlled by General de Gaulle's forces (Free French). The Vichy Government was Hitler's puppet regime and it fled to Germany in 1944 when Germans were driven away from France.

Vietnam War, The. The trouble in Indo-China (which comprised the present territories of Laos, Cambodia and Vietnam) went back to World War II when Japan overran this area. With the Japanese surrender, the nationalists opposed the return of European colonialism. The French, however, refused to agree to this and planned to retrieve that part of their empire. The local nationalists replied by forming Vietminh, the League for Vietnam Independence, under the leadership of Ho Chi-minh, the Russian-trained founder of the local Communist Party. The war of independence started in December, 1946. In 1950, the three States of Laos, Cambodia and Vietnam were formed. The French Placed Bao Dai on the Vietnamese throne but this attempt met with stiff opposition from the Vietminh who regarded him a French puppet. The situation became fairly complicated when Moscow recognised Ho Chi-minh as the rightful Head of Vietnam and Washington supported the French-backed government of Indo-China.

Helped by Russia and Red China, Ho Chi-minh had captured by March, 1954 every French stronghold except Dienbienphu, which resisted the Communist onslaught with a French garrison of 16,000 men. The Communists, however, captured Dienbienphu on 7th May, 1954, after a 55-day bloody battle. With this defeat, the French opposition to Vietnam virtually collapsed. A 19-nation Geneva Conference (including Red China) arranged an armistice on 21st July, 1954 under which Vietnam was divided at the 17th parallel, the North going into the control of the Communist

Vietnam, pending elections within two months to effect a unified government. The independence of Laos and Cambodia was recognised and an International Control Commission was named to supervise the fulfilment of these agreements.

In South Vietnam, Bao Dai was forced out and Republic of Vietnam was established. Ngo Dinh Diem, an aristocrat and strongly anti-communist, was elected the first President of South Vietnam in October, 1955. The Americans, with a view to maintaining his regime, sanctioned increased amounts of economic and military aid as well as technical assistance. But the situation was far from satisfactory. The communist guerillas from South and North Vietnam known as Viet Cong had strongly entrenched themselves against the Diem regime. President Kennedy, therefore, increased economic, military and technical assistance. Diem's army was trained in jungle warfare by American experts; American helicopters and planes were employed to carry men and material to the rapidly changing battle-fronts throughout 1961-63. The Communist guerillas employed hit-and-run tactics of jungle fighting and the fluid front worked to their advantage. No city, no town nor a village was free from the Viet Cong; even the American residential quarters, located in Saigon, the capital of South Vietnam, witnessed bomb outrages resulting in heavy casualties. In the meantime, the Diem regime grew unpopular due to its repressive rule and persecution of Buddhist majority. The Buddhists countered with mass protest demonstrations, riots and self-immolations. This culminated in a coup on 1st November, 1963 whereby General Duong Van Minh came into power and established a military junta. Diem and his brothers were shot dead. In February 1964, the Minh junta was ousted by General Nguyen Khanh. Later, Khanh too was ousted by Air Marshal Ky, the Air Force Chief of South Vietnam.

The situation assumed dangerous proportions when in August, 1964, the American destroyers were attacked in the Gulf of Tonkin by unidentified vessels, presumed Communist. The United States, in retaliation, destroyed at least 25 BT boats belonging to the Communists in air attacks and took the air war right into Northern Vietnam by staging raids on ammunition dumps, military installations, roads, railways and important bridges. While both sides remain adamant, the rival fighting men are pouring misery and pain, death and destruction in Vietnam. The magnitude and seriousness of the conflict are evidenced by the fact that the U. S. who enjoys a relative mastery in air power, has herself lost about 1200 bombers by Communist fire. However, the American decision to discontinue bombing raids over North Vietnam and protracted peace talks in Paris have resulted in a lull in fighting.

(Also see under *Current Affairs*).

Waterloo, Battle of (18th June 1815). The battle that sealed the fate of Napoleon and forced him to abdicate. After his return from Elba, Napoleon, enjoying superiority in numbers and weapons, attacked the British under Wellington at Waterloo in Southern Belgium and tried to force his way to Brussels. The attack was abortive and the French suffered a crushing defeat. Humiliated and

crest-fallen, Napoleon surrendered to the English in July, 1815 and was sent as a prisoner to St. Helena.

World War I (1914-18). It began with Austria's attack on Serbia in July, 1914, following the murder of the Archduke Francis Ferdinand at Sarajevo. Russia came to the help of Serbia and Germany to that of Austria. War was then declared on France as Russia's ally and the invasion of Belgium brought Great Britain into the struggle. A little later, Turkey joined on the side of Germany and Austria. These three countries were called the Central Powers. France, Britain, Russia, called the Allies, were later joined by Japan, Italy and Rumania. U. S. A. joined the Allies in 1917. The main theatres of war in Europe were the Western Front, where Britain and France confronted the Germans and the Eastern front where Russians were poised against Germans and Austrians. The third Front was at Gallipoli Peninsula and Mesopotamia. The fourth Front comprised the conflict that raged in German colonies. Till 1916 the Central Powers had an edge over the Allies but in 1917 the USA entered the arena and the scales were turned in favour of the Allies. Russia had in July, 1917, collapsed and made peace with Germany. Early in 1918, the Germans launched a fierce offensive and almost reached Paris but the American armies in the field pushed the Germans back. The Allies' counter-offensive brought about the defeat of Central Powers. The war ended on 11th Nov., 1918 and the Peace Treaty was signed at Versailles (France) on 28th June, 1919.

World War II (1939-45). The Second World War had its origin in the Nazi Germany's unwillingness to accept the frontiers agreed to under the Treaty of Versailles in 1919 and the Anglo-French resolve to come to the aid of those countries which feared German onslaught. The Western Powers after crowning their appeasement policy with the Munich Pact (1938) began to rearm rather uneasily and extended guarantees to other possible victims of aggression, notably to Poland. Germany seized Bohemia and Moravia in March, 1939 and demanded the return of Danzig and the Polish Corridor. Following is the chronology of the important events of the War:

1939

- 1 Sept. Germany invaded Poland and overran the country in about 4 weeks.
- 3 Sept. Britain and France declared war on Germany.

1940

- April Germans occupied Denmark and Norway.
- 10 May Germans invaded Belgium and Holland.
- 27 May-4 June Historic evacuation from Dunkirk, a port in Northern France, of 2 million British and 1½ million French forces. All heavy equipment had to be abandoned.
- 5 June Germany invaded France.
- 10 June Italy declared war on Allies.
- 22 June France surrendered.
- 10 July-31 Oct. Battle of Britain. The aerial battle between R.A.F. and the German Air Force (Luftwaffe).

1941

- 22 June Hitler launched invasion of Russia.
 7 Dec. Japan attacked Pearl Harbour, American Naval Base in Hawaii.
 '8 Dec. America and England declared war against Japan.
 10 Dec. China declared war against Japan, Germany and Italy.
 11 Dec. Germany and Italy declared war on U.S.A.

1942

- 15 Feb. Japan captured Singapore; 70,000 British and Australian soldiers surrendered. Churchill was to describe it later as "the worst disaster and largest capitulation in British history".
 27 Feb. Burma fell to Japanese.
 5 Sept. Battle of Stalingrad began. Fighting in streets.
 Oct. Gen. Montgomery trounced Field Marshal Rommel at Alamein in Africa.

1943

- 31 Jan. Germans were defeated at Stalingrad. 90,000 German soldiers including Gen. von Paulus captured.
 3 Sept. Italy surrendered.

1944

- 6 June Allies under Gen. Eisenhower landed in Normandy.
 25 Aug. Paris liberated. By late 1944 France and Belgium were liberated.

1945

- 13 Feb. Russia captured Budapest Turkey declared war on Germany and Japan.
 22 April Mussolini was captured and executed.
 7 May Germany surrendered unconditionally.
 6 Aug. Hiroshima was atom-bombed.
 8 Aug. Russia declared war against Japan.
 9 Aug. Nagasaki was atom-bombed.
 14 Aug. Japan surrendered unconditionally.
 3 Sept. Armistice signed.

PACTS AND PLANS, TALKS AND TREATIES, ALLIANCES AND CONFERENCES

Aid India Club. An international organisation, formed at the initiative of World Bank, to render various kinds of assistance for India's Five-Year Plans. The Club was formed in 1958 with U.S.A., Canada, U.K., West Germany and Japan as members in addition to the World Bank. U.S.A. promised to match her contribution to the assistance promised by all the other members. Later, Austria, Belgium, Netherlands, France, Italy, Denmark and Sweden joined the Club. Its total contribution to India's Third Five-Year Plan amounted to Rs. 2,500 crores. The Club has put the Indian requirements for foreign aid for 1970-71 at \$ 1,100 million. (J.A.S., 1962)

Afro-Asian Solidarity Conference. The Conference was formed to forge solidarity among the newly found Afro-Asian countries and to present to the rest of the world the true face of resurgent Asia and Africa. Its meetings were, however, marked by disagreements, denunciations and recriminations. The February, 1963 meeting at Moshi in Tanganyika first condemned China for her aggression against India in 1962 but later detracted from it. At the 1964 session at Algiers, some members condemned the formation of Malaysia. The last conference was held at Accra in May, 1965.

Afro-Asian Conference or Bandung Conference (1955). The conference which was attended by 29 nations of Asia and Africa was held at Bandung (Indonesia) from 18th to 20th April, 1955. It condemned colonialism and racial discrimination and demanded ban on all nuclear weapons. While the conference gave a semblance of unity and community of interest among its members, it could not conceal its ideological disparities. China and Indonesia could hardly resist their temptation to turn it into an anti-West platform. Pakistan's attempt to obliquely introduce the Kashmir issue was also attended with serious dissensions. The Second Afro-Asian Conference, proposed to be held at Algiers, was twice postponed and later cancelled.

ANZUS (Mutual Defence) Treaty. The Treaty was signed in September, 1951 by Australia, New Zealand and the United States of America to allay the fears of the first two partners about possible aggression from Japan and the more potential danger from the expansionist Communist China. The Treaty envisages to meet an external attack against any of the signatories with joint measures in accordance with its constitutional processes.

Arab League. The Arab League, an organisation of independent Arab States of Egypt, Syria, Iraq, Jordan, Lebanon, Yemen and Saudi Arabia, was formed in 1945 with headquarters at Cairo. Intended to promote cooperation and solidarity among the Arab nations who belonged to the same ethnic stock, shared the common traditions and spoke the same language, the League stubbornly opposed establishment of the Jewish homeland. It was the instrument of joint Arab action in 1948 war against Israel. In 1958, the League was recognised by the U.N.O. as a regional organisation of the Arabs. Libya, Sudan, Tunisia, Morocco, Kuwait and

Algeria joined it later. While the League has been broad-based with the joining of all Arab States, it hardly presents a picture of unity. Monarchical Saudi Arabia and Jordan appear out of place with Socialist U.A.R., Syria, Iraq and Lebanon. The June, 1967 Arab rout at the hands of Israel and the death of President Nasser have given a set-back to the League.

Asian and Pacific Council (ASPAC). A security alliance of 9 nations with its headquarters at Singapore. Its aims include the collective defence of the area after the projected withdrawal from the region of Great Britain and America in early seventies. The alliance is designed to fill the vacuum thus caused and to collectively stand up to the threatening posture of Communist China especially when the two super powers bow out of the Asian continent.

Asian Development Bank. Formally inaugurated on 24th November, 1966, it is an international financial organisation aimed at financing development programmes in the underdeveloped Asian countries. It has a membership of 31 nations—both Asian and non-Asian. 60 per cent of the \$ 1100 million capital of the Bank has been contributed by the Asian members (including India); rest of it comes from USA, UK and Italy. The organizational set-up of the Bank consists of a Chairman, a President of the Board of Directors and 10 Directors (7 from Asia and 3 from elsewhere). It started functioning at Manila from 19th December, 1966.

Association of South East Asian Nations (ASEAN). It is a non-military regional Association of the South East Asian nations—Indonesia, Malaysia, the Philippines, Singapore and Thailand—and aims at regional cooperation in social, cultural and economic development and avoiding tension among the member countries. The ASEAN members were conspicuously helpful in bringing the Sabah dispute between Malaysia and Philippines to a happy close in 1968.

Austrian Peace Treaty (1955). From 1938 to 1945 Austria formed a province of 'Greater Germany' when it was liberated and occupied by the Allied forces. During the Allied occupation, a republican government was established under the leadership of Karl Renner. By the Austrian Peace Treaty of 1955, the occupying powers recognised Austria's independence and neutrality and troops were withdrawn by the autumn of that year. Austria was also admitted that year as a member of the U.N.O.

Baghdad Pact. See Central Treaty Organisation.

Balfour Declaration. A policy statement made on 2nd November 1917 by A.J. Balfour, British Foreign Secretary, in support of the establishment of a Jewish homeland in Palestine after World War I provided that safeguards could be reached for the rights of the non-Jewish communities in Palestine. This Declaration was soon confirmed by all Allied governments and it formed a basis for the League of Nations mandate for Palestine in 1920.

(A.I.I.M.S. 1959 ; P.C.S. 1958)

Benelux. The term stands for the economic union of Belgium, the Netherlands and Luxembourg. In 1948, a custom union known as Benelux Custom Union was formed. The present union (the economic union) was established in 1958. It provides for abolition of trade and travel restrictions and coordination of economic and financial policies. The nations act as one trading unit. •

Berlin issue. After the fall of Germany, Berlin was divided into four sectors, namely, the American, the British, the French and the Russian Sectors under the quadruple supervision of Allied Control Council. The British, American and French zones were merged together by June, 1947. The joint zone was named "Trizonia". Mounting friction between Russia and Western Powers resulted in the withdrawal of Russia in 1948 from the Joint Council and consequently Berlin was split up into two separate cities: West Berlin which in 1949 became a member State of the Federal Republic of Germany and East Berlin which became the Capital of German Democratic Republic. The Western Powers introduced separate West German currency in Berlin and the Russians countered this move by putting a blockade of West Berlin from June, 1948 to May, 1949, during which period West Berlin population was supplied by means of the historic "airlift". The meeting of the Big Four Ministers at Paris from 23rd May to 20th June 1949 failed to produce any result regarding unification of Germany and soon after the two separate States—the Federal Republic of Germany and the German Democratic Republic—came into being.

In 1959, Prime Minister Khrushchev of Russia threatened that if no suitable solution of the German problem was found by May, 1960, Russia would hand over control of East Berlin to East Germany with whom the West would have to negotiate for access routes to Berlin. The top Russian and American leaders, however, helped to calm the situation at least temporarily. A meeting of the Big Four Heads of States and Konard Adenauer, the West German Chancellor, was arranged in May, 1960. Unfortunately the U-2 incident a few days before the proposed Summit meeting washed all the spade-work done till then and the Summit meeting failed to break any ground.

Because of the arms build-up on either side of Berlin, the exodus of East Berliners to the Western side proved startling for the East German Government. It began erecting the Berlin Wall on 13th August, 1961 and stopped 50,000 East Berliners from going to West Berlin for regular work. However, in August, 1963 relations between Russia and America took a turn for the better when the so-called "hot line"—a direct telephone line between Washington and Moscow—was completed. The Berlin question (and with that the whole German question) continues to stalemate.

Brussels Pact (Western European Union—W.E.U.) In March, 1948, Britain, France, Belgium, Netherlands and Luxembourg, signed the Treaty of Brussels. The Treaty established a 50-year alliance under which the signatories were to render necessary military and other aid if one or more of them were attacked by any nation. In the spring of 1952, the Benelux countries, France, Italy and West Germany signed treaties for the establishment of

European Defence Community (EDC) with the active approval of U.S.A. which agreed to extend to the EDC the same commitments that it had to N.A.T.O. The proposal, however, failed because the French legislature refused to ratify it. A series of conferences among the EDC countries, Britain and Canada resulted in the formation in October, 1954 of the Western European Union (W.E.U.). Under it, both Great Britain and the United States committed themselves to maintain troops in Europe as long as danger threatened. West Germany was admitted to N.A.T.O. All the countries subsequently approved the W.E.U. by 5th May, 1955. The chief object of the pact is the supervision of rearmament of West Germany.

Bretton Woods Conference. This conference was held in July, 1944 at Bretton Woods (U.S.A.), attended by delegates of 44 countries. The proposals discussed were international economic cooperation and freer trade by a system of international payments. The conference resulted in the creation of International Monetary Fund and the International Bank of Reconstruction and Development to promote international monetary cooperation and economic development.

Central Treaty Organisation (CENTO). Originally known as Baghdad Pact (or Middle East Treaty Organisation—METO), the treaty was signed in 1955 among Turkey, Iran, Iraq, Pakistan and the U.K. This was more of a political than a military agreement to align the so-called Northern-tier countries against possible Russian aggression. Moreover, there was no unified command or a joint military force as NATO had. Though not a member, the U.S.A. gave moral support and military assistance to the Pact. After the establishment in 1958 of Kasseem regime in Iraq, that country withdrew from the Pact in March, 1959.

Though America resisted membership of the Pact, she concluded separate agreements with each of the three Asian countries whereby the U.S. promised to safeguard the countries against communist aggression. The name of the Pact was changed to Central Treaty Organisation in August, 1959 with headquarters at Ankara, Turkey. In 1960, the organisation decided to set up a joint command to make it a more effective deterrent to aggression. A great quantity of US equipment of military nature was also received by the countries. This equipment was used by Pakistan against India during the 1965 Indo-Pakistan conflict. CENTO's three Asian powers—Pakistan, Iran and Turkey—have, in addition, entered into a collective alliance known as **Regional Cooperation for Development**, primarily for economic development and cooperation. (*A.I.J.M.S.*, 1959; *P.C.S.*, 1958)

Colombo Nations Proposals. With a view to easing tension between India and China after the Chinese aggression of 1962, Mrs. Bandarnaike, Prime Minister of Ceylon, called a meeting at Colombo of the six nations, *e.g.*, Ceylon, Burma, Cambodia, Indonesia, U.A.R. and Ghana. The proposals, formulated by the Colombo Nations, were accepted by India but China continued to keep mum over them till it came to be known that she was not agreeable to Indian forces returning to the McMahon Line in the

NEFA area nor to the establishment of joint civil posts in Ladakh. China, however, agreed to talk matters over without pre-conditions or pre-acceptance of any proposals but India thought all such talks futile and meaningless. The result has been a complete deadlock. •
(Dhanbad, 1963)

Colombo Plan. A programme of economic and social development of countries of South and South East Asia, formulated in 1950 by eight nations of the British Commonwealth. Extended upto 1970-71, the Plan envisages development of agriculture, irrigation, power, communications and social services like health, housing and education. The total membership now stands at 22 including Britain, U.S.A., Canada, Australia, New Zealand and Japan. Provision of food supplies, capital, technical know-how, exchange of technical experts and imparting of specialised training are some of the features of the Plan. The Plan which covers one fourth of the world population and one sixth of the land mass, has so far provided aid worth about \$ 15 billion, in addition to 30,000 persons trained in new skills and another 7,000 in specialised technical jobs.

Comm' for Mutual Economic Assistance (COMECON). Formed in 1949 as the Communist counterpart to Marshall Plan for West European countries, the COMECON is an international organization for coordination of economic policy in East European countries in the sphere of Russian influence. It was expanded in 1950. Its members are East Germany, Russia, Bulgaria, Hungary, Poland, Rumania, Czechoslovakia and Mongolia. Albania, an original member of the COMECON, was expelled in 1961 and Mongolia admitted in 1962. Rumania, notwithstanding her membership of the COMECON, has also entered into Pacts with some Western countries for installation of an atomic reactor and steel plant in the country.

Commonwealth of Nations. One of the greatest changes that have taken place in recent years has been in the organisation and spirit of the British Empire. We no longer speak of the British Empire (except in respect of those colonies which have not yet received the self-governing status) but instead the Commonwealth of Nations, a brotherhood of free countries. Before Indian independence, there were only six Commonwealth countries namely Great Britain, Australia, Canada, Irish Free State, New Zealand and South Africa. By the Statute of Westminster, 1931, the Commonwealth nations were made fully autonomous in all affairs but they recognised British leadership in certain matters of mutual interest. Later additions to the Commonwealth were India (1948), Pakistan (1948), Ceylon (1948), Ghana (1957), Malaysia (1957), Nigeria (1960), Cyprus (1961), Sierra Leone (1961), Tanganyika (now Tanzania) (1961), Jamaica (1962), Trinidad-Tobago (1962), Uganda (1962), Kenya, Malawi, Zambia, Malta, Gambia (1965), Singapore (1965), Barbados, Botswana, Lesotho, Guyana, Mauritius, Swaziland, Western Samoa, Tonga and Fiji Islands. The three last-named joined the Commonwealth in 1970. Ireland, (Irish Free State) and South Africa, the original Commonwealth members, withdrew in 1949 and 1961 respectively.

As it stands now, the Commonwealth of Nations is a free association of 31 independent nations, bound by community of interest and democratic ideals. It is a family of various religious groups—Christians, Hindus, Muslims—and different races—Aryans, Negroes and Mongols. It represents a quarter of world's total population. Individual nations have their own internal and external policies, their own terms of citizenship, their own treaties and alliances and their own decisions and considerations about matters of war and peace. The nations meet once a year, generally in London, to consider the world situation and matters of common interest. There is no formal agenda, nor decisions of formal nature are taken. Controversial issues, existing among nations, are not discussed and raising of such issues during speeches is discouraged. (S.C.R.A., 1960, 1966)

Disarmament Conference. The Disarmament Commission was set up by the UN General Assembly in 1952 but it was soon beset with an open conflict between the Pro-Soviet and the Pro-West views. Non-communist Powers proposed sharing of (arms) information, an agreement on inspection methods, an international atomic authority and a system of safeguards to ensure observance and detect violations. Russia, on the other hand, demanded an atomic weapons ban and a 33 per cent arms cut before the above proposals could be considered. While the two camps continued to wrangle, the General Assembly on 20th November, 1959 unanimously approved a resolution recommending "complete and universal disarmament". An 18-Nation Disarmament Committee was formed two years later. (In the meantime, France refused to participate in the deliberations and developed her own atomic bomb.) Meeting occasionally ever since, the Committee's "modest" achievements include establishment of a "hot line" between Moscow and Washington, conclusion of a Partial Test Ban Treaty (25 July, 1963) and the signing of Nuclear Non-Proliferation Treaty (1 July, 1968). The Conference now has 26 members.

Eisenhower Doctrine (Middle East Doctrine). After the Suez crisis in 1956, the prestige of U.K., France and Israel suffered a severe set-back. It also created in the Middle East a power vacuum which was soon filled by Russia through helping and patronising some Arab States. With a view to arresting inroads of international communism in the Middle East, President Eisenhower in a special message to Congress on 5th January, 1957, proposed a line of action that has been popularly called the Eisenhower Doctrine. The programme suggested: (1) The United States should assist any Middle Eastern nation economically in the maintenance of national independence; (2) Military assistance should be extended to any country in the area that sought such help; (3) Employment of U.S. armed forces to protect the territorial integrity and political independence of such nations; (4) Use of funds by the President under the Mutual Security Act.

Europe, Council of. The Council of Europe is an international body created in 1949, as a result of the Statute of the Council of Europe. It was a first step towards a federation of European States.

Its headquarters is at Strasbourg, France. The Council consists of a Committee of Ministers (represented by the Foreign Ministers of the member States) and a Consultative Assembly of 87 members. The members are Austria, Belgium, Denmark, France, West Germany, Great Britain, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Sweden and Turkey. The principal aim of the organisation is to ward off the danger of communism.

European Recovery Programme (E.R.P.) or Marshall Plan. By 1947, the war-ravaged European economy presented a dismal spectacle. It was fraught with disastrous consequences if remedial measures had not been devised. This state of affairs prompted American Secretary of State, George Marshall to ask the European countries to institute a drive against "hunger, poverty, desperation and chaos" and promised that America would provide economic aid more as "a cure rather than a mere palliative". Sixteen European countries meeting at Paris in July, 1947 welcomed the American offer whereas the Soviet Union and its European satellites turned deaf ears. The European nations devised ambitious recovery operations which the U.S. readily approved and agreed to implement. Consequently, during the plan period, America extended aid to the tune of \$ 12.3 billion, chiefly in the form of American grains, cotton and other raw materials, fertilizers, machinery, coal and oil. While Britain, France, Italy and West Germany were the principal recipients of this aid, other members of the organisation also benefited from it. The American aid proved a boon for the starving European economy. As a result, the industrial production of the recipient countries had been increased by 40 per cent in 1951 and agricultural production by 10 per cent. Greece and Italy were enabled to stabilize their democratic rule; France and Great Britain were up again on the economic map; West Germany had made tremendous recovery and laid foundations of economic miracles in the years that followed. The American aid continued, though in a lower key, reaching the mammoth figure of \$ 44 billion in the ultimate analysis. (U.P., P.C.S., 1965)

European Community. European Community is a collective term for the three Communities, established by the Benelux nations, France, West Germany and Italy. These are the European Coal and Steel Community, the European Economic Community (or European Common Market) and the European Atomic Energy Community. Each has a separate structure but all share two major governing bodies, namely, the European Parliamentary Assembly and the Court of Justice.

European Atomic Energy Community. It is a supranational agency established in 1957 to develop atomic energy within European Economic Community. Popularly known as the Euratom, it proposes to create a common market for nuclear raw materials and equipment, stimulate joint research and set up a reservoir of nuclear technicians.

European Coal and Steel Community (ECSC). Established in 1952 by Benelux bloc of countries, France, Italy and West Germany, it seeks to provide unified market for the coal and steel products of its members.

European Economic Community (European Common Market). The Community stands for the common market comprising Benelux bloc, France, Italy and West Germany. Greece became an associate member in 1962. The Treaty was established in 1957 and it provides for setting up of customs union and formation of common commercial policy over a 12-year period. Members are gradually to eliminate internal tariff barriers and trade restrictions, to create uniform tariff system for imports from other countries and to allow free movement of labour and capital. Social security systems and wage rates have been standardized and a unified European Investment Bank is proposed to finance the industrial development of the area. As a result of removal of tariff restrictions, the member countries are by now enjoying unprecedented prosperity. Great Britain was initially invited to join the Market, but she had declined. However, in 1963 she reversed her decision and applied for the membership but this time France stood in the way of British entry into the Market. While the economic aspect of the Community was achieved by the end of 1969, its ultimate object—political integration of the area—remains a remote possibility. France appears to be dead against the Market attaining supranational powers.

European Free Trade Association (E.F.T.A.). Formed in 1958 and ratified in 1960 by Britain, Sweden, Norway, Denmark, Austria, Switzerland and Portugal, the Association is the British-dominated counterpart of the European Common Market. Finland became an associate member of the Association in 1961. The agreement provides for gradual reduction of tariffs and quota restrictions between members. It is a looser association than the ECM and its discipline and obligations are not as rigorous as those of the latter.

European Parliamentary Assembly. A legislative body formed in 1958 to govern European Coal and Steel Community, European Economic Community and European Atomic Energy Community. In 1962, it became the European Parliament.

Fair Deal. It is the declaration of President Truman on 5 January, 1949, promising a fair deal to all in the U.S.A.; to the industrialist, more incentives; to labour, increase in wages; to agriculture, long-range price supports and rural electrification; to the aged and infirm, social security and health insurance; to Negroes, civil rights and racial desegregation; to the poor, low-cost houses and federal aid to education; and to the average consumer, strict check on inflation. These measures quickly brought about the all-time high prosperity in the American economy.

Four Freedoms. In a message to Congress on 6 January, 1941, President Roosevelt stated that four freedoms should prevail throughout the World—freedom of speech and expression, freedom of worship, freedom from want and freedom from fear. These were substantially incorporated in the Atlantic Charter.

Franco-German Treaty. President de Gaulle of France and Konrad Adenauer, Chancellor of West Germany, signed a Treaty in January, 1963 and pledged to cooperate in Defence, Foreign policy and Education.

G.A.T.T. (General Agreement on Tariffs and Trade). Formed by 23 countries at a meeting in Geneva in 1947, G.A.T.T. sought to : (i) establish a uniform policy of tariff restrictions ; (ii) do away with discrimination in trade; and (iii) avoid or minimize cut-throat competition among the member countries resulting in wastage of man-power and economic resources. The 1961 Geneva meeting of the member nations decided, on representation from certain newly emerging industrial countries, to reduce duties on the imports from under-developed countries. However, on the initiative of President John F. Kennedy of America, the USA and 53 (non-communist) nations, concluded an agreement — known as the KENNEDY ROUND — to liberalize world trade by effecting an all-round reduction on tariff on a variety of commodities. The tariff cuts proposed range from 5 to 30 per cent, covering nearly 80 per cent of the world trade.

Glossboro Summit. This summit meet between President Johnson of America and Mr. Alexie Kosygin, Prime Minister of the USSR, was held at Glossboro (New Jersey USA) in June, 1967 to explore areas of agreement between the two nations on West Asian crisis and other international issues. The Russian Premier had earlier gone to the United Nations at the head of his country's delegation when the world body discussed the Arab-Israeli war of June, 1967.

Indus Waters Treaty, 1960. The Indus Waters Treaty was signed by Prime Minister Jawaharlal Nehru of India and President Ayub Khan of Pakistan on September 19, 1960 at Karachi. It was a happy finale to an otherwise bitter and long-drawn controversy over the rights of the two countries to the waters of the Indus Basin rivers. The Treaty defined and fixed the rights and obligations of the two countries with regard to the use of these waters. After ratification by the two countries of this agreement in January, 1961, the Treaty came into force with retrospective effect from April, 1960. According to the provisions of the Treaty, the three western rivers—Chenab, Jhelum and Indus —were awarded exclusively to Pakistan (except minimal use of Jhelum water in the Kashmir Valley) and the three eastern rivers—Sutlej, Beas and Ravi —were awarded exclusively to India. In the interim period, that is up to 1970, India was required to provide a specified quantity of water to Pakistan. With massive foreign aid, huge storage facilities and link canals were to be constructed in West Pakistan to replace supplies from the eastern rivers. India was also required to make an yearly contribution of £ 62.06 lakh sterling for a period of 10 years.

In accordance with the provisions of the Treaty, a two-man Permanent Indus Commission, represented by a nominee (designated as Commissioner) of each country, was created. It visited the respective areas within the countries for physical inspection, whenever required, and submitted annual reports to their governments. India had also paid to the World Bank for credit to the Indus Development Fund her fixed contribution of £ 62.06 million towards the replacement works in Pakistan. After the completion of ten-year period on 1st April, 1970 India, in

accordance with the Treaty provisions, diverted all waters of the eastern rivers for her exclusive use.

Japanese Peace Treaty. The Treaty was signed at San Francisco on 8 September, 1951 by delegates from 49 countries. Czechoslovakia, Poland and the Soviet Union had earlier refused to be a party to this Treaty. Terms of the Treaty were: (a) Japan's full sovereignty was recognised; (b) Japan agreed to abide by all terms of the UN Charter; (c) All occupation forces would be withdrawn within three months of the conclusion of this Treaty; (d) Japan accepted and recognised the independence of Korea; (e) Japan agreed to give certain Pacific islands notably the Ryukyus and the Bonnins to U.N. trusteeship under United States administration; (f) The reparations which Japan agreed to pay would not be extracted at the cost of Japanese economy; and (g) Japan promised to give the Allies most-favoured-nation treatment and *vice versa*.

Geneva Agreement (1954). Indo-China, comprising the present territories of Laos, Cambodia and Vietnam, was the French colony in the East, which was captured by the Japanese during World War II. After its liberation in 1945, the nationalists opposed the return of French colonialism. The war of independence started in Vietnam in 1946 between the Communists under Ho Chi-Minh and the French. By March, 1954, the Communists had captured most of the territory in North Vietnam and the famous Communist victory at Dienbienphu on 7 May, 1954 had virtually broken the back of French power in the area. A 19-nation Geneva Conference (including Communist China) concluded an agreement in July, 1954 under which Vietnam was divided at the 17th Parallel; the northern areas were conceded to the Communists, pending elections within two months to effect a unified government of Vietnam. The independence of Laos and Cambodia was recognised. Other provisions of the agreement were the ban on rearmament on both sides and appointment of an international supervisory committee, with India as Chairman, to execute the Geneva Agreement and to hold elections, aimed at reunifying the two areas.

Lend-Lease. Lend-Lease Act, passed by the U.S. Congress in March, 1941, gave the President powers to sell, transfer, lend or lease necessary war supplies to the nations whose defence was vital to the U.S. in World War II. By the end of the War, most of the Allied Nations had been declared eligible for lend-lease aid. Great Britain and Belgium also provided "reverse lend-lease" to American forces overseas. The programme was discontinued in August, 1945 when aid worth \$ 50.6 billion had been extended.

Locarno, Treaties of (1925). An international conference was held at Locarno, a tourist resort in Switzerland, in October, 1925 which produced a series of treaties of mutual guarantee and arbitration among England, France, Germany, Italy, Belgium, Czechoslovakia and Poland. The major treaty guaranteed the Western boundaries of Germany as fixed by the Treaty of Versailles of 1919. Germany agreed to demilitarize a strip of the Rhineland and was thereby guaranteed entry into the League of

Nations. The Locarno Treaty was violated by Hitler in March, 1936 by occupying Rhineland.

Multilateral Force (M.L.F.). In June, 1963, the N.A.T.O. Council mooted the idea of Multilateral Nuclear Force with a view to giving the European NATO members some say in the control and use of nuclear weapons. Mixed crews representing various nations were to be associated with the vessels, fitted with Polaris missiles. But widespread dissensions in the NATO camp as well as France's policy of developing independent nuclear deterrent have put the proposal in the melting pot.

Non-Aligned Nations Summit. The First Summit Conference of the Non-Aligned Nations of the world was held in September, 1961. Prominent among the nations represented at the Conference were India, Ceylon, Burma, Nepal, Morocco, Ethiopia, Yugoslavia, Ghana, U.A.R., Cuba and Mali. The Conference made a passionate appeal to the USA and Russia to resolve their differences in a peaceful manner, in the best interests of humanity and suspend testing of nuclear weapons. The Second Summit was held at Cairo in October, 1964. Prime Minister Shastri represented India at this Conference. Third Non-Aligned Summit was held at Lusaka, Capital of Zambia, in September, 1970. (*I.A.S., 1961*)

North Atlantic Treaty Organization (N.A.T.O.). After the Communist coup in Czechoslovakia in February, 1948, Britain, France, Belgium, Netherlands and Luxembourg concluded the Treaty of Brussels, a 50-year alliance under which the signatories were to grant "all military and other aid if one or more of them were attacked by any nation". Later on 4 April, 1949, 12 nations—Belgium, Canada, Denmark, France, Great Britain, Iceland, Italy, Luxembourg, Netherlands, Norway, Portugal and the United States—signed the NATO Pact. Greece and Turkey were admitted in 1951 and West Germany in 1955. The Treaty provided : (a) Member nations affirmed faith in the U.N. Charter; (b) They must safeguard the freedom, common heritage and civilisation of their peoples, founded on the principles of democracy, individual liberty and the rule of law ; (c) They adhered to the preservation of peace and security by means of collective defence ; and (d) Armed attack on one nation would be considered an attack on all nations who would combine to meet it effectively.

NATO consists of a Supreme Council, a Secretariat headed by a Secretary General and a Military Headquarters under a Supreme Commander. Forces operate under integrated command but retain national identities. The Supreme Military Headquarters is now at Brussels (Belgium). Sufficient troops pooled by member nations have been provided to NATO in addition to a rich armoury of U.S. weapons, nuclear warheads, missiles and most sophisticated fighter aircraft. However, of late, NATO's relations with France are not all good. She has withdrawn from the integrated NATO Military Command. France does not participate in the NATO exercises. She has also forced the NATO to shift its headquarters from Paris to Brussels (Belgium).

Organisation for European Economic Cooperation (O.E.E.C.). It was set up in 1947 to facilitate intra-European economic

cooperation. After completion in 1958 of European Recovery Programme, which it helped to coordinate, its activities included : (a) measures to eliminate intra-European import quotas; (b) creation of European Nuclear Energy Agency in 1958. This was entrusted with promoting production and uses of nuclear energy for peaceful purposes in Western Europe ; (c) supervision of European Monetary Agreement (E.M.A.) which succeeded the European Payments Union (E.P.U.) in 1958. E.M.A. was formed following members' moves towards greater currency convertibility. Whereas E.P.U. gave automatic credit to member governments, E.M.A. created a fund to facilitate settlement between O.E.E.C. members, but stipulated that payments should be on a gold basis. It (*i.e.* E.M.A.) ended automatic credit. In 1961, O.E.E.C. was superseded by Organisation for Economic Cooperation and Development (O.E.C.D.).

Organisation for Economic Cooperation and Development (OECD). It superseded in 1961 the Organisation for European Economic Cooperation (OEEC). Its members are Austria, Belgium, Denmark, France, West Germany, Great Britain, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Spain, Sweden, Switzerland, Turkey, U.S.A. and Canada. Finland, Yugoslavia and Japan also associated with some OECD activities. The members pledged cooperation to promote their economies, to aid under-developed nations and to expand world trade. European Nuclear Energy Agency and European Monetary Agreement continued to operate under OECD.

Organization of American States (OAS). It was set up at Bogota in 1948 by 21 American Republics to promote peace development and solidarity among member nations. It greatly helped the members resolve their mutual differences and disputes, for example several disputes between Costa Rica and Nicaragua and those between Dominican Republic and other Caribbean States were settled. In 1962, Fidel Castro's Cuba was excluded from the O.A.S. Council. In 1964 when the US-Cuba conflict was referred to it, the Organisation decided to apply economic and diplomatic sanctions against Cuba.

Organization for African Unity (O.A.U.). O.A.U., consisting of 31 African nations (most of them newly freed) was formed in May, 1963 with headquarters at Addis Ababa in Ethiopia. It pledged : (i) to liquidate colonialism in Africa and actively help dependent African nations to achieve right of self-determination ; and (ii) to tighten measures against the most notorious and repressive regimes in South Africa, Portuguese colonies and Southern Rhodesia.

The O.A.U. Heads of States meet once a year. The 1964 conference of the Organisation, held at Cairo, called upon the member nations to break diplomatic relations with Great Britain with a view to forcing her to take effective steps against the Unilateral Declaration of Independence by Southern Rhodesia disregarding the wishes of the African majority in that country. There appears to have emerged serious differences among some member States over the functioning of the organization as well as its real

objectives. The 8th O.A.U. meeting was held at Addis Ababa in September, 1970.

Outer Space Treaty (1967). Officially known as "Treaty on the Principles of the Activity of States in the Exploration and use of Outer Space, including the Moon and other Celestial Bodies", it was signed on 27th January, 1967 by the Secretary of State of U.S.A. and Foreign Ministers of U.K. and U.S.S.R. at Washington, London and Moscow respectively. The Treaty prohibits the orbiting of atomic weapons in space, as well as their installation on the moon or other planets. It also provides for rules and principles for cooperation among all nations in the field of space research.

Peace Corps. It was during campaigning for Presidency in 1960 that John F. Kennedy mooted the idea of an American Peace Corps of skilled and dedicated men who would be prepared to share their knowledge in education, agriculture, health, trade, technology and community development with the under-developed nations with a view to helping them achieve a richer and more varied life. The aim was to properly channelize youth's spontaneous impulses for social service. Necessary legislation for the formation of Peace Corps was passed after Kennedy's election as President. Peace Corps volunteers are to be US citizens and at least 18 years old. They get subsistence allowance consistent with the economic level of the people they have to live and work with. In 1968, there were about 14,000 Peace Corps volunteers working in 59 countries, including nearly 950 in India. A total of 2700 volunteers had by then returned home on the completion of their assignment.

Potsdam Conference. The Conference was held at Potsdam, Germany, from 17 July to 2 August, 1945 and was attended by President Truman, Marshal Stalin and Prime Minister Winston Churchill (later replaced by Clement Attlee). The Potsdam agreement divided Germany as well as city of Berlin into US, British, French and Russian occupation Zones. It abolished Nazi military and political power, provided for war-crimes trials, controlled German economy and production and restored local self government and education to foster democratic ideals. The Allies also agreed to transfer territory East of Neisse and Oder rivers to Polish and Russian administration pending final peace treaty.

Point Four Programme. Americans thought that unless something was done for the neglected under-developed nations, they might become ripe for communist blandishments. The prevailing poverty was inconsistent, they opined, with the state of plentifulness in advanced countries. In his inaugural address of 20 January, 1949, President Truman spelled out four major courses of action that would constitute the American programme for world peace and freedom. The most publicised course of action that became known as Point Four Programme promised: (i) a bold new programme for making the benefits of scientific advances and industrial progress available to under-developed countries; (ii) achievement of peace, plenty and freedom through U.N. principles; (iii) profit motive must be disregarded entirely in Point Four; and

(iv) encouragement to the investment of private U.S. capital in the projects in under-developed countries.

Under the Point Four Programme, the U.S. offered experts, technical know-how, equipment and capital to help other countries develop industry, agriculture, public administration, health and education. The programme was allied with various other technical assistance projects, notably those of the U.N.O. The Technical Cooperation Administration (T.C.A.) was set up in 1950 with an initial fund of \$35 million. It was later merged in 1953 with the Mutual Security Agency as Foreign Operations Administration (F.O.A.) and was subsequently integrated into an overall aid programme.

Rapacki Plan (Plan for Nuclear-free Europe). Put forward in February, 1958 by Adam Rapacki, Foreign Minister of Poland, the Plan suggested a form of "disengagement" under which the Central Europe (Poland, Czechoslovakia and Germany) would be denuclearized to become a neutral zone between the rival forces. The West rejected it for the plan's limited scope and their inability to place reliance on the "good intentions" of Russia. Even the later proposals, amended and improved, failed to find favour with the West which went ahead with their own defensive arrangements.

Rio Treaty (1947). The Treaty was signed at Rio de Janeiro in Brazil in August, 1947 among the nineteen inter-American countries and the U. S. A. The Treaty envisaged economic sanctions by a two-thirds vote of the Republics against any aggressor and also a hemisphere defence zone. This Treaty was a forerunner to the establishment of the Organisation of American States (O.A.S.) in 1948.

San Francisco Conference (1945). Delegates of 51 countries met at San Francisco in April, 1945 to hold discussions on the establishment of an international organisation to secure and preserve peace in the world. The result was the finalization and signing of the U.N. Charter on 26 June, 1945. The Charter envisaged the maintenance of peace, upholding of fundamental rights, promotion of social progress, better standards of living, greater tolerance and living together in peace with one another as good neighbours.

Schuman Plan. Prepared in 1950 by Robert Schuman, Foreign Minister of France, the Plan resulted in the formation of European Coal and Steel Community which provided a unified market for the coal and steel resources of member nations.

Sino-Burmese Treaty. Accord having been reached earlier, the Sino-Burmese Border Treaty was signed on 22 January, 1960. Burma ceded some territory on the Sino-Burmese border to China who in return, gave up her mining rights in the Lupang area. This Treaty was later presented as a mirror of Chinese good intentions towards her neighbours.

Sino-Russian Treaty (1950). A 30-year Treaty of mutual friendship, military alliance and economic aid was signed between (Communist) China and Russia in February, 1950. Russia offered China \$ 300 million worth industrial and rail equipment from the U.S.S.R., return of Manchurian Railway to the Chinese and transfer to China of Port Arthur and Dairen which have been

combined to form city of Lu-ta. The Treaty accepted Outer Mongolia as a sovereign nation. At present, when Russo-Chinese relations have suffered a serious set-back, this Treaty has also developed stresses and strains. It stands virtually annulled though not formally scrapped.

Sino-Tibetan Agreement. An agreement was signed between China and Tibet on 23 May, 1951, which spelled out the nature of future relationship between the two countries. According to the Agreement, Tibet was to have regional autonomy under China, which as the suzerain power, was responsible for the foreign affairs of Tibet. The traditional, political, economic and religious systems as also the peculiar ways of Tibetan living, customs and heritage were not to be altered. Nothing was to be imposed by force. However, soon after Tibet was occupied by Chinese troops, Buddhist monasteries were raided and desecrated. Lamas were forced to preach communism rather than their religion, Tibetan youth were forcibly sent to the mainland for indoctrination and a reign of terror was let loose. As China refused to grant internal autonomy, popular unrest grew, culminating in a full-scale revolt in 1959 when the Dalai Lama, unable to act as the Head of the State, fled to India and sought asylum. The Panchen Lama, a pro-Red rival Lama, was installed as the nominal ruler of Tibet by the Chinese.

Sino-Pakistan Border Treaty. This masterpiece of international treachery and banditry was enacted on 2nd March, 1963 when Pakistan, claiming no rights except those of usurpation, ceded to China, another bandit in the bargain, about 2000 sq. miles of territory in Kashmir, a constituent part of India. A portion of K-2 mountains, till recently considered Indian by all laws of possession, tradition, custom and usage, was also given away. By concluding this Treaty (which has been officially described as transitional as China would conclude the permanent treaty with the country, to which side Kashmir belongs after the resolution of this dispute) China has sought to disprove the long accepted traditional boundary between (Indian) Kashmir and China and to establish that the dividing line runs along the Karakoram rather than the Kunlun mountains.

Sino-Nepalese Treaty. The Treaty was signed at Peking in April, 1960. It provided for demarcation of Sino-Nepalese boundary based on tradition, custom and usage. Nepal relinquished her exclusive ownership of Mount Everest and agreed that the peak could also be reached from the Tibetan side. China agreed to give Nepal economic aid worth Rs. 10 crores and to build the highway connecting Kathmandu with Lhasa.

South East Asia Treaty Organisation (S.E.A.T.O.). Reasonably satisfied with the achievements of N.A.T.O., America turned her attention towards Asia where Communist China had emerged as a dominant power in early fifties. The Eisenhower administration was, however, unable to persuade Burma, Ceylon, India or Indonesia to join a defence pact against communism; the new nations like Cambodia, Laos and Vietnam were barred by the Geneva armistice terms of 1954 to enter into any defensive alignment. Nationalist China was not asked as it was not recognised by Great Britain. Thus the only Asiatic nations that agreed to join the proposed

SEATO were Pakistan, the Philippines and Thailand. On 8 September, 1954, delegates from U.S.A., Great Britain, France, Australia, Philippines, New Zealand, Pakistan and Thailand signed the Treaty at Manila. It was more like ANZUS and Philippines Pacts than that of NATO. It laid down that: (i) Each member would meet the common danger "in accordance with its constitutional processes"; (ii) SEATO will provide economic and technical assistance to South East Asian nations; (iii) Danger of infiltration and subversion would be collectively met; and (iv) America would help these nations in case of Communist aggression only.

SEATO was vehemently criticised as a "geographic monstrosity" for only three of its members were Asiatics. SEATO has no standing Army like that of NATO and its subsequent moves against communist aggression are limited to the adoption of resolutions and voicing of protests. The Asian members' inability to fight communism in Indo-China and Pakistan's flirtation with Peking have reduced the Pact to a scrap of useless paper.

South Korea-Japan Treaty (1965). A treaty of friendship, aimed at restoration of normal relations between South Korea and Japan. It was signed in Sept., 1965. Japan agreed to give economic aid to South Korea and to absorb the migrant South Koreans as citizens of Japan. In 1910, Japan had forcibly annexed Korea but after the Second World War, it was declared an independent country.

Tashkent Declaration. The 48-day Indo-Pakistan hostilities, beginning with the massive infiltration of Pakistanis on 5 August, 1965 came to an end on 23 September, 1965, on the intervention of the United Nations. A mutual cease-fire followed by truce agreement was agreed to. Prime Minister Lal Bahadur Shastri and President Ayub Khan of Pakistan later met at Tashkent, Capital of Soviet Uzbekistan, and signed the Tashkent Declaration on 10 January, 1966. Prime Minister of Russia, Mr. Kosygin, was present throughout the negotiations. Both the leaders agreed to restore peaceful relations between the two countries, withdraw armed personnel back to the original positions, renounce use of force for settlement of disputes, shun interference in the internal affairs of the other country and restore normal trade and diplomatic relations. A few hours after the signing of this declaration, Prime Minister Lal Bahadur Shastri passed away. The Pact was registered with the U. N. on 22 March 1966.

(N.D.A., S.C.R.A., A.I.I.M.S., 1966)

Test Ban Treaty. Talks for a Test Ban Treaty were opened at Moscow in July, 1963 and were attended by delegates from Russia, U. K. and U.S.A. A partial Test Ban Treaty was signed there on 5 August, 1963 by Foreign Ministers of the three countries. The Treaty provides to ban testing of all nuclear devices in the atmosphere, including outer space, and under water. The Pact was subsequently signed by more than 100 other nations. Only France and China, because of their desire to develop their own nuclear weapons, refused to join the Pact.

Third Force in Europe. France is not satisfied to play a secondary role to America in Europe. "Her disenchantment with

N.A.T.O., hostility towards the English and American influences in the continent, her opposition to admitting U. K. in the Common Market and her resolve to develop an independent nuclear deterrent are some of the indications towards setting up a third force in Europe. France is convinced that America would wage a war not for the sake of Europe but only for her own interests, and in either case Europe would be the first casualty.

Truman Doctrine, The. The Truman Doctrine was publicised as the "iron fist" of military and economic action against communism. After the war, Greece faced determined opposition from Communist guerillas vigorously supported by some elements from Albania, Bulgaria and Yugoslavia. In Turkey, Russians were pestering the Turkish Govt. to grant them free use of Black Sea Straits. To meet these threats, President Truman enunciated in March, 1947 his doctrine of American Foreign Policy which declared "that wherever aggression direct or indirect, threatened the peace, the security of the United States was involved". He also asked for a Congressional appropriation of \$ 400 million (which was granted later) to help the current governments in Greece and Turkey.

U-2 Incident, The. An American U-2 reconnaissance plane, piloted by Francis Gary Powers, was shot down by Russia near the industrial town of Sverdlovsk about 1200 miles inside the Soviet Union. Powers, who was captured alive, later confessed to spying, said the Russian announcement, and his cameras contained exposed film of Soviet military installations. He was sentenced to undergo a 10-year imprisonment. This incident bedevilled relations between Russia and America for a long time and was responsible for the bitterest and most violent denunciations and tirades from both sides. Russia refused to come to the negotiating table with the U.S.A. on any matter. The Communists in Japan created such an ugly situation that the projected tour of Eisenhower to Japan had to be abandoned. (I.A.S., N.D.A., 1960)

US-Japan Security Treaty (1960). In January, 1960, the new Treaty for mutual cooperation and security was finalised by USA and Japan. It pledged that the two nations would help each other in the event of external aggression; America could also use Japanese territory as bases for its military, air and naval forces. In return, the U.S. would keep Japan posted with her defence arrangements in the area including the changes she would make in her defence operations. The Treaty was expected to be signed in June that year (1960) between President Eisenhower and Emperor Hirohito of Japan. In view, however, of general opposition by Socialists in that country to the Treaty, Eisenhower cancelled his visit to Japan. Emperor Hirohito signed the Treaty on 22 June, 1960.

Warsaw Pact (East European Security Pact). Shortly after the establishment of Western European Union (WEU), a defensive alliance among the West European democracies, the Soviet Union replied by creating the Warsaw Pact consisting of Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania and U.S.S.R. This was a treaty of military and economic alliance which pledged assistance of all kinds against external aggression. Moscow

was to be the headquarters for a joint military command. It was publicised that the pact was made necessary by remilitarization of West Germany under WEU. The Treaty was to be in force for 20 years unless East-West collective security system came into force. From 1962 onwards, Albania ceased to be invited to Warsaw Treaty meetings. She withdrew from the Pact in 1968.

(S. C. R. A., 1960)

Westminster, Statute of (1931). This was an Act of the British Parliament by which the British Commonwealth of Nations was declared to be a free association of autonomous dominions and the United Kingdom, bound only by common allegiance to the Crown. It ratified the declaration of Imperial Conference of 1926 and gave complete equality to the Dominions.

Yalta Conference (Crimea Conference). The historic Yalta Conference was held from Feb. 4 to 11, 1945 at Yalta, in Crimea (USSR) and was attended by President F.D. Roosevelt, Joseph Stalin and Prime Minister Winston Churchill. Its complete details and the text of agreements were made public only in 1947. Among the decisions taken at this conference were : (1) Only an unconditional surrender by Germany would be acceptable to the Allied powers; (2) Germany, after her defeat and surrender, would be occupied by the Four Powers—USA, UK, USSR and France—and Berlin would be divided into four zones; (3) A founding conference of the United Nations was proposed to be held in San Francisco; veto system was agreed upon for the projected Security Council. (4) Russia agreed to declare war against Japan within three months after the surrender of Germany and was promised restoration of South Sakhalin, Kurile Islands, Port Arthur and Dairen (which were taken away from her by Japan after the Russo-Japanese war of 1905) and joint Chinese-Soviet administration of Manchurian railroads.

CHAPTER 6 GEOGRAPHY

Q. (a) Where are the following located ?

(i) The Shwe Dagon Pagoda (ii) The Acropolis (iii) Borobudur (iv) The Empire State Building (v) Kamakura.

(b) Where are the following situated ?

(i) Ocean of Storms (ii) Mariana Trench (iii) Atacama Desert (iv) Ruhr region (v) Qatar.

(c) Write a brief note on the 'Savannah Type' of natural region. (I.A.S., 1970)

Ans. (a) (i) Rangoon, Burma (ii) Athens, Greece (iii) Java, Indonesia (iv) New York, USA (v) Japan.

(b) (i) On the Moon surface where the Apollo 12 astronauts had landed (ii) South-east of Guam Island in the W. Pacific (iii) Chile, South America (iv) West Germany (v) On the Arabian peninsula, projecting into the Persian Gulf.

(c) See page 132.

Q. (a) Where are the following and what are they known for?

(i) Farapure (ii) Madurai (iii) Ludhiana (iv) Rabat (v) Aswan and (vi) Cherrapunji.

(b) In which State and town are the following located?

(i) Administrative Staff College (ii) Lalit Kala Akademi (iii) Bharat Electronics (iv) National Botanical Gardens.

(Stenographers, 1970)

Ans. (a) (i) A place about 96 kilometres away from Bombay in Maharashtra where India's first nuclear power station has been installed. (ii) In Tamil Nadu, it is famous chiefly for the beautiful Meenakshi Temple. (iii) In the Punjab, it is a large manufacturing complex specializing in the manufacture of hosiery goods and light engineering goods. It is also the seat of an agricultural university. (iv) Capital of Morocco (Africa) where in September, 1969 the Islamic Summit of world Muslim States was held. (v) A city in the UAR near which the Aswan High Dam has been built. (vi) In Assam, it receives the highest rainfall in India.

(b) (i) Hyderabad (ii) New Delhi (iii) Bangalore (Mysore) (iv) Lucknow (U.P.)

Q. (a) Distinguish between—

(i) avalanche and glacier (ii) tributary and distributary.

(b) Explain why—

(i) There is light rainfall in some parts of Northern India during winter months, (ii) There is no extreme of heat in summer in South India, and (iii) The duration of day becomes longer as one goes to higher latitudes in the same hemispheres.

(Clks. Gde. Exam., 1970)

Ans. (a) (i) An avalanche is a mass of snow and ice at high altitudes which, under its own weight, slides down to the valleys very rapidly causing immense damage to the habitation or vegetation that comes its way. A glacier is a huge mass of ice, formed owing to the pressure of the immense depth of snow and covering a large area, moving very slowly down a valley towards the sea

under the force of gravity. Many rivers have their source in the glaciers. (ii) A tributary is a river or a stream which contributes its water to the main river by joining the latter. A distributary, on the other hand, is a branch or outlet that leaves the main river (never to rejoin it) carrying its water to the fields, to the sea or to a lake.

(b) (i) It is due to the condensation of moisture in the atmosphere with the onset of winter. In addition, cyclones rise from the Persian Gulf and after striking against the Hindukush Mountains turn towards Northern India and shed their moisture in the shape of rains. (ii) Bounded on the north by the ranges of Vindhyas and Satpuras, South India is a triangular mass that tapers off into the Indian Ocean between Bay of Bengal on the East and the Arabian Sea on the West. These surroundings greatly influence the climate of South India making it less hot. (iii) The axis of earth is inclined at about $23\frac{1}{2}^{\circ}$ to the plane of its orbit. As we move towards higher latitudes in either of the hemispheres, the period for which a particular point remains facing the sun increases progressively till we reach the Poles where the day and night are each of six months' duration.

Q. (a) Give the location and importance of the following :—

(i) Doldrums (ii) Pyramids (iii) Agia (iv) Puri, and (v) Bhilai.

(b) Name the most important countries for the production of the following :—

(i) Tea (ii) Rubber (iii) Rice (iv) Gold (v) Copper.

(Cent. Info. Ser., 1970)

Ans. (a) (i) See page 144. (ii) to (v) See under Important World Towns, Monuments, Buildings, etc.

(b) (i) India (ii) Malaysia (iii) China (iv) South Africa (v) USA.

Q. Name the State in India which is the major producer of each of the following :—

(i) Cardamon (ii) Poppy (iii) Copper (iv) Saltpetre.

(Asstt. Gde., 1969)

Ans. (i) Kerala (ii) U. P. (iii) Bihar (iv) Bihar.

Q. What is a major port? Name five major ports in India and mention their respective hinterlands. (Asstt. Gde., 1969)

Ans. A major port is one which (i) can take ocean-going steamers with a registered tonnage of 4,000 and more, (ii) can berth them along the harbour, and (iii) carries on a minimum requisite trade of 5 million tons a year. India's five major ports and their respective hinterlands are: Kandala (Gujarat, Rajasthan, Punjab and Haryana), Marmagao (Goa, Maharashtra, Mysore), Bombay (Maharashtra, Gujarat, Mysore and Madhya Pradesh), Madras (Tamil Nadu, Andhra Pradesh and Kerala) and Calcutta (West Bengal, Bihar, Assam, U. P., Orissa and Madhya Pradesh).

Q. (a) What is the importance of the following places?

(i) Sultanpur Lodhi (ii) Lumbini (iii) Madurai (iv) Dehra Dun (v) Arvi.

(b) In which Indian city or State are the following situated, and what are they famous for?

(i) Konark (ii) Kaziranga (iii) Jallianwala.

(Indian Forest Service, 1979)

Ans. (a) (i) A small town near Jullundur in Punjab where Guru Nanak, founder of the Sikh faith, served as the controller of "Modi Khana" of the then Governor, Nawab Daulat Khan Lodi. (ii) Situated in the Nepal Terai, it is the birth-place of Gautam Buddha. (iii) In Tamil Nadu. It is famous chiefly for the Meenakshi Temple. (iv) In U. P., where are located the Indian Military Academy and the headquarters of the Oil and Natural Gas Commission. (v) Situated in Maharashtra near Poona. It is famous for the first Earth Communication Station being built there to receive TV broadcasts etc. from the INTELSAT III.

(b) (i) In Orissa, it is famous for the Sun-God temple. (ii) A game sanctuary in Assam for rhinos and other animals. (iii) Situated in Amritsar, it is the place where, on 13 April, 1919, an unarmed crowd was mercilessly gunned by the Army under orders of Gen. Dyer killing hundreds of innocent people.

Q. Name the country in which each of the following is located and state what it is :—

(i) Mont Blanc (ii) Jodrell Bank (iii) Monte Carlo (iv) Dnieper (v) Angkor Vat. *(Indian Forest Service, 1970)*

Ans. (i) Alpine massif on the Franco-Italian border. (ii) In Cheshire, England, it is famous for the observatory which has the 750-ton giant radio-telescope. (iii) A small principality of Monaco, it is the fabulous gambling resort of the world. (iv) In the USSR, it is an important river. (v) In Cambodia, famous for the ancient Vishnu temple of the Khmer Empire, located here.

Q. Where are the following and why did these places appear in news recently ? (Three lines each)

(i) Gandhi Nagar (ii) Belgaum (iii) Tarapur (iv) Meghalaya (v) Chandigarh. *(Geologists, 1970)*

Ans. (i) A place in Gujarat, 16 miles away from Ahmedabad. On this site is being built the new Capital city of Gujarat State. (ii) An important town in Mysore which is being claimed by Maharashtra for linguistic contiguity. The claim has, however, been rejected by the recent Mahajan Commission, (iii) It is a town located in Maharashtra, about 100 kilometres away from Bombay. The first atomic power station (in India) was formally inaugurated here by the Prime Minister in January, 1970. (iv) A recently formed autonomous State within Assam. It has a legislature and a Council of Ministers. The Governor of Assam is the executive head of the State. (v) The seat of both Punjab and Haryana Governments and at present a Centrally administered territory. It has been awarded to the Punjab and would be handed over to that State in the near future.

Q. (a) What are the following ?

Walrus, eel, walnut, herring, beetle and kiwi.

(b) Write a note on 'Glacier'. *(I. N. July, 1970)*

Ans. (a) They are a large marine mammal, a fish, a tree, a fish, a common insect and a flightless bird respectively.

(b) See in this Chapter under Geographical and Astronomical Terms.

Who are the following :—

- (i) Red Indians (ii) Bedouins (iii) Maoris (iv) Eskimos, and (v) Khasis. (Engg. Ser. Electronics, 1970)

Ans. (i) People who inhabited the Americas before the coming of the Europeans. They are said to have entered the Americas from Asia via the Bering Strait. Their number has now dwindled to four lakhs. (ii) Pastoral nomads of Semitic stock inhabiting countries of Arabia. These tribals are Muslims by faith. (iii) Maoris are the people of Polynesian stock in New Zealand mostly in North Island. Believed to be Caucasian, they are famous for decorative wood-carving and flax weaving. (iv) Inhabitants of the Arctic and sub-Arctic region extending from E. Greenland across the Bering Strait to Siberia and number over 30,000. (v) People numbering about 2.5 lakh living in the Khasi and Jaintia Hills District of the newly created Meghalaya within Assam. Mostly Christian, the tribals have a matriarchal society.

Q. Why are the following places important ?

- (i) Rourkela (ii) Perambur (iii) Nepalnagar (iv) Chittaranjan. (Engg. Ser. Electronics, 1970)

Ans. (i) to (iv) See under Important World Towns and Places.

Q. (a) What are parallels of latitude and meridians of longitude ? What is their importance ? The longitude of Delhi is 77° E. What is the local time in Delhi when the Greenwich time is 12 noon.

(b) Name the countries in which the following are situated: —

- (i) Nanda Devi Peak (ii) Fujiyama Volcano (iii) Amazon river (iv) Kara Kum Desert (v) Aswan Dam (vi) Giant Geyser, and (vii) Mont Blanc.

(c) What are the Capitals of the following countries ?

- (i) Switzerland (ii) Afghanistan (iii) Thailand and (iv) Czechoslovakia.

(d) Which countries have the following as their Capitals ?

- (i) Addis Ababa (ii) Djakarta (iii) Budapest (iv) Havana.

(e) Fill in the blanks in the following sentences :—

(i) A lunar eclipse occurs when the..... comes between the and the sun. (ii) An eclipse of the..... happens only at a full moon and a..... eclipse can occur only at a new moon. (iii) is an instrument for recording earthquake shocks. The point on the surface of earth which lies directly above the focus of an earthquake is known as the..... (iv) when the moon is full or new its pull on the seas is assisted by that of the..... and tides occur. (I.M.A. May, 1970)

Ans. (a) See pages 148-149. The local time of Delhi will be 8 minutes past 5 P.M.

- (b) (i) India (ii) Japan (iii) South America (iv) Soviet Union (v) U.A.R. (vi) U.S.A. (vii) France-Italy border.

(c) (i) Berne (ii) Kabul (iii) Bangkok (iv) Prague.

(d) (i) Ethiopia (ii) Indonesia (iii) Hungary (iv) Cuba.

(e) (i) earth ; moon (ii) moon ; solar (iii) seismometer ; epicentre (iv) sun, spring.

Q. Write a paragraph on the south-west monsoon in India.

(I.M.A., May, 1970)

Ans. The summer monsoons of India are the moisture-laden south-westerly winds that blow strongly across the Indian Ocean to the heated plains of India. A part of them strikes against the Western Ghats causing heavy rains there and move across the Deccan Plateau to the Eastern Coast where they are almost dried up. Another part of the monsoons passes over the arid zones of Sind and Rajasthan, without encountering any hills and goes straight to the Himalayas without shedding even a drop of rain on the way. After the Gangetic Plains, this part of the monsoons turns south-easterly and joins with the Bay of Bengal monsoons to cause heavy rainfall in some areas of Assam.

Q. (a) Of what countries are the following the Capitals ?

(i) Helsinki (ii) Nairobi (iii) Berne (iv) Kuala Lumpur (v) Teheran.

(b) In which States of India are the following, and why are they noted ?

(i) Churk (ii) Guntur (iii) Panna (iv) Barauni (v) Madurai.

(Lngg. Ser., 1969)

Ans. (a) (i) Finland (ii) Kenya (iii) Switzerland (iv) Malaysia (v) Iran.

(b) (i) U.P. A cement factory is located here. (ii) Andhra Pradesh. It is famous for cigarette manufacture. (iii) Madhya Pradesh ; it is famous for diamond mining. (iv) Bihar, an oil refinery is located here. (v) Tamil Nadu; the famous Meenakshi Temple is located here.

Q. (a) Name the country in which each of the following is situated: —

(i) Vladivostok (ii) Haifa (iii) Seine (iv) Fujiyama, and (v) Greenwich.

(b) Explain the following terms : —

(i) Local time (ii) isotherm (iii) rain shadow (iv) savannas and (v) prairies.

(c) Name the Indian State in which each of the following is situated : —

(i) Hissar (ii) Alleppey (iii) Visakhapatnam, and (iv) Shillong.

(Indian Navv, Dec. 1969)

Ans. (a) (i) Soviet Union (ii) Israel (iii) France (iv) Japan (v) England.

(b) (i) to (v) See under Geographical Terms

(c) (i) Haryana (ii) Kerala (iii) Andhra Pradesh (iv) Assam.

Q. Find appropriate words in columns 2 and 3 to each of the terms given in column 1 and rewrite in relevant order : —

| 1 | 2 | 3 |
|--------------|---------------|----------------|
| Fianna Fail | United States | Capital |
| Old Trafford | Japan | Newspaper |
| Lyons Range | Eire | Cricket ground |
| Cape Kennedy | Italy | Old Temple |
| Jerusalem | U.S.S.R. | Share Market |
| Shintoism | Burma | River |

| | 1 | 2 | 3 |
|------|--------------|----------------|---------------------|
| | Tass | Israel | Political Party |
| | Kyat | India | Rocket Station |
| | Borobudur | United Kingdom | Monetary Unit |
| | Tiber | Indonesia | Cult |
| | | | (I.E. & S.S., 1970) |
| Ans. | Fianna Fail | Eire | Political Party |
| | Old Trafford | United Kingdom | Cricket ground |
| | Lyons Range | India | Share Market |
| | Cape Kennedy | United States | Rocket Station |
| | Jerusalem | Israel | Capital |
| | Shintoism | Japan | Cult |
| | Tass | U.S.S.R. | Newspaper |
| | Kyat | Burma | Monetary Unit |
| | Borobudur | Indonesia | Old Temple |
| | Tiber | Italy | River |

Q. (a) Name the countries whose Capitals are the following:—

(i) Amman (ii) Accra (iii) Wellington (iv) Bucharest (v) Djakarta.

(b) Mention the States in India where the largest amounts of the following are found:—

(i) Manganese (ii) Mica (iii) Monazite (iv) Tungsten (v) Antimony.

(c) What are the following and where are they located ?

(i) Pentagon (ii) Potala (iii) Eiffel Tower (iv) Sarnath (v) Sphinx. (I.E. & S.S., 1970)

Ans. (a) (i) Jordan (ii) Ghana (iii) New Zealand (iv) Rumania (v) Indonesia.

(b) (i) Madhya Pradesh (ii) Bihar (iii) Kerala (iv) Rajasthan (v) Himachal Pradesh.

(c) (i) to (iv) See under World's Important Monuments, Buildings and Places. (v) In Greek mythology, it is a monster taken from Egyptian religion—a winged lion with a woman's head. It killed those who did not answer her questions. The most famous Egyptian sphinx is that of Gizeh (UAR) near the Great Pyramid.

Q. (a) Explain the action of (i) frost and (ii) atmosphere in changing the configuration of the Earth's surface.

(b) Give the importance and location of the following :—

Vatican, Louvre, Downing Street, Golden Temple, Pentagon and Adam's Bridge. (I.N., July, 1970)

Ans. (a) (i) Frost is atmospheric water directly crystallized on the ground and on exposed objects. It freezes the aqueous solutions in the plant cells causing damage or even total destruction of the plants, especially the tender fruit trees and crops. Deep penetration of frost in soil may render it completely barren of vegetation; frost action in the breaking and erosion of rocks is an important agent of change on earth. (ii) Atmosphere consists of the gaseous envelope round earth and the water vapour. Variations in atmospheric pressure cause winds, rains and other activity which, in turn, cause breaking up and wearing away of the earth surface. The earth material is thus broken up at one place

and carried away and deposited at another by such denuding agents as frost, glaciers, rivers and winds. Storms in deserts carry huge quantities of sand and deposit it elsewhere causing to make huge sand dunes. By denudation, a granite may be decomposed into micaceous sands and China clay while sedimentary rocks are built up from the debris of old ones.

(b) See in this Chapter under *World's Important Monuments, Buildings and Places*.

Q. Where are the following ? Write two sentences on each of them.

(i) Ussuri river (ii) Biafra (iii) Kuala Lumpur (iv) Shatt-el-Arab and (v) Halebid. (I.A.S., 1969)

Ans. (i) It is a river that runs along Soviet Siberia and Chinese Manchuria. Damansky, an island in this river, was the scene of serious Russo-Chinese clashes in March, 1969. (ii) Biafra was the new name of the federal territory of Eastern Region, one of the four regions into which Nigeria was formerly divided. It seceded from the country in 1967 but was retrieved in 1970. (iii) The Capital of Malaysia and a great trade centre. It was the scene of serious race riots during May, 1969. (iv) The 3-mile long channel formed by the confluence of the Iraqi rivers Tigris and Euphrates and extending from Al Qurnah to Al Faw at the sea mouth. The use of this channel has been under dispute between Iraq and Iran. (v) Halebid is a place of archaeological and tourist interest, situated in Mysore State. It is famous for beautiful sculptured temples.

Q. (a) Write one sentence about each of the following: -

(i) Fleet Street (ii) the Kremlin (iii) Jodrell Bank (iv) Viet Cong, and (v) Apartheid.

(b) **Explain :—**(i) Isotherm and (ii) light year. (I.L.S., 1969)

Ans. (a) (i) The centre of journalism in London. Most of the country's newspapers are published from this street. (ii) A 100-acre citadel forming the core of Moscow. It is the seat of USSR Government. (iii) The World famous astronomical observatory near London. (iv) Organization of communist guerillas and the fighting wing of the National Liberation Front in South Vietnam. (v) A South African word meaning "apartness". It relates to the policy of racial segregation practised by some white Governments in Africa.

(b) (i) Lines drawn on a map passing through places where temperature of the air is the same at a stated time. (ii) The distance that light travels in one year and which comes to about 6 million million miles. It is taken as a unit for measuring the distance of the stars from the earth and for other measurement of the universe.

Q. Explain why (in about 20 words) :—

(i) Christmas is celebrated in summer in Australia ; (ii) a jet plane leaving London at 7 A.M. can reach New York at the same time on the same day ; (iii) it rains heavily in the coastal strip of Western India while a few miles to the east the rainfall is scanty;

(iv) high tides are the highest on full moon and new moon days ;
 (v) astronauts experience weightlessness. (I.E.S., 1969)

Ans. (i) Winter months in Australia coincide with the summer months in Asia and Europe and *vice versa*. Christmas, therefore, falls in summer in Australia. (ii) The time taken by a jet plane to reach New York from London is equal to the difference in their local times. (iii) The monsoons cause heavy rainfall in the Western Ghats, shedding almost the whole of their water. Places situated further East, therefore, do not get much rainfall. (iv) On full moon and new moon days, the sun, the moon and the earth are positioned in a straight line. The first two exert their influence together and cause higher tides. (v) As an astronaut is out of the gravitational pull of the earth, his body is in a state of weightlessness.

Q. (a) **Explain the following :—**

(i) Midnight Sun (ii) Injunction (iii) Great Bear (iv) Stop Press, and (v) Tides.

(b) **What are the original names of the following :**

(i) Botswana (ii) Sabah (iii) Taiwan (iv) Zambia (v) Malawi.
 (Stenographers, 1969)

Ans. (a) (i) See page 124. (ii) A judicial order restraining a person or a party from a particular course of action. (iii) It is a constellation in the Northern Hemisphere and is also known as Ursa Major. (iv) Special space reserved in a newspaper for any news item that may come at the last moment. (v) See page 129.

(b) (i) Bechuanaland (ii) British North Borneo (iii) Formosa (iv) Northern Rhodesia (v) Nyasaland.

Q. **What are the following and where are they found ?**

(i) Ibex (ii) emu (iii) puma (iv) kiwi (v) llama (vi) yak.

(S.C.R.A., 1969)

Ans. (i) A gregarious wild goat found at snow-line mountains of Asia and Europe. (ii) A rare flightless bird of Australia related to ostrich. (iii) A panther-like predatory animal found in Canada and some tropical countries. (iv) A nocturnal flightless bird native to New Zealand. (v) A South American domesticated mammal of the camel family. They live in herds up to snow-line in Andes. (vi) A domesticated, long-haired mammal native to Tibet and some parts of Central Asia.

Q. (a) **What are the following ?**

(i) Wular (ii) Gobi (iii) Etna (iv) Kachchativu (v) Ajanta.

(b) (i) Kodaikanal ; (ii) Titagarh ; (iii) Sindri ; (iv) Solan ; and (v) Digboi.

(Engg. Ser., 1969)

Ans. (a) (i) An expansive lake near Baramula in the Kashmir Valley. (ii) The 500,000-sq. mile sandy desert in China and Mongolia at an average altitude of 3,000 feet. (iii) The 11,000-ft. high active volcano on the East Coast of Sicily, Italy. Its top is snow-bound almost all the year round. (iv) A small island between India and Ceylon which has been a subject of dispute between the two countries. (v) Picturesque ruins near Aurangabad (Maharashtra) famous for their temples and caves.

(b) (i) to (iii) and (v) See under Important Towns. (iv) A small hill station on way to Simla, Mohan Meakin Brewery is located here.

Q. What and where are the following ?

(i) Bikini (ii) Gobi (iii) Wular (iv) Hatia (v) Croydon.

(*Geologists, 1969*)*

Ans. (i) See under *Important Towns, Places*. (ii) and (iii) See answers above (iv) A small town situated at the foot of the Everest mountain in Nepal. (v) It is a suburb of London and an airport.

Q. (a) Give the importance of each of the following places and the State in which it is situated : —

(i) Cochin (ii) Digboi (iii) Rourkela (iv) Ferozabad (v) Nepa nagar and (vi) Koyna Nagar.

(b) Name the country in which each of the following is situated : —

(i) The Hague (ii) Amazon (iii) Bangkok (iv) Apennine mountains (v) Lake Baikal, and (vi) Sydney.

(c) Which Indian State is the major producer of each of the following :—

(i) Maize (ii) Cotton (iii) Manganese (iv) coffee (v) rubber, and (vi) beryllium.

(d) Write a note on trade winds (about ten lines).

(e) Name two countries which have the largest production of each of the following :—

(i) Tea (ii) coal, and (iii) aluminium. (*I.M.A., Apr., 1969*)

Ans. (a) (i) to (vi) See under *Important Towns*.

(b) (i) Netherlands (ii) Brazil (iii) Thailand (iv) Italy (v) USSR and (vi) Australia.

(c) (i) Bihar (ii) Maharashtra (iii) Madhya Pradesh (iv) Mysore (v) Kerala (vi) Rajasthan.

(d) See under *Geographical Terms*.

(e) (i) India, China (ii) USA, UK (iii) USA, Canada.

GEOGRAPHICAL SURVEY

PHYSICAL GEOGRAPHY

Map Reading. A map is a representation, upon a plane surface, of the earth or some part of it. As almost all geographical facts are represented by maps, the ability to read a map cannot be over-emphasized. Most of the earth's surface has been surveyed for the purpose of making maps. Mountains, valleys, trees, buildings and other features are represented on maps by certain signs or symbols. With a view to reading a map, it is necessary to know the following three essentials:

(i) *The scale of the map.* It is impossible for a map to represent every inch of land. Therefore scaling is necessary. An inch on map may represent a mile, four miles or so on actual earth ; it is then called a 'one inch' or "quarter inch" map. The scale of a map may be indicated by representative fraction such as 1 : 1,000,000 meaning thereby that an inch on the map represents one million inches (nearly 16 miles) on the ground.

(ii) *Direction.* The top of the map represents north, the opposite side south, the right hand side east and the left hand one west.

(iii) *Heights or Relief.* Relief is the uneven nature of the surface. It is generally represented by means of hachures, contours and the layer system. They are explained as follows :—

(a) *Hachures.* These are shading lines drawn across contour lines. Low land is almost white. Where the slope is steep, these lines are drawn close together, the shading being dark. Gentle slopes are drawn far apart and the shading is light.

(b) *Contours.* Contour lines are those lines that are drawn in a map through points of equal height above sea level, for example, 100 feet. Similarly contour lines can be drawn for 200, 300 and 400 feet or for any particular height selected. In almost all cases the height is indicated in figures on the contour lines.

(See Fig. 1)

(c) *The Layer System.* In some maps, surface relief is shown by means of various tints of colours. In such cases, low land, for example, is coloured green and high land brown. In most of the Indian maps, land below the 600 feet contour line is coloured green, land between 600 ft. and 1000 ft. a light yellow and land between 1000 ft. and 1500 ft. a pale brown. The darker shades of brown are used for higher land.

(iv) *Section.* From a given contoured map, it is possible to know the kind and the extent of slope by drawing a section. A section, therefore, is the representation of contoured lines

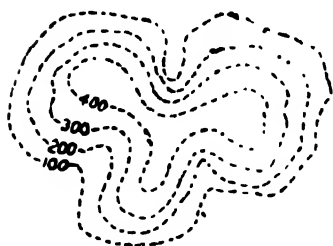


Fig. 1.

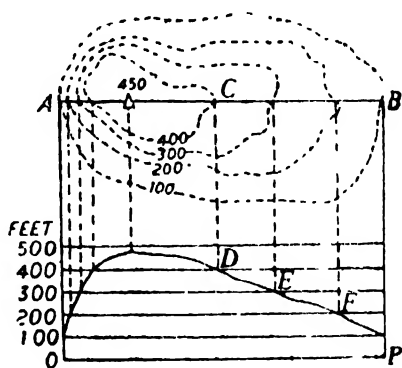


Fig. 2.

Contour Lines. Section of a hill with one side steeper than the other.

(concentric circles) into visual reality. The contours show how, for example, a hill would look like in a map, depicting its heights, depressions and other physical features whereas the section transforms the same contoured lines into a hill as we see it with our eyes.

(See Fig. 2)

THE EARTH

Because of its enormous size, the earth we live on appears flat. But Pythagoras, some 2,500 years ago, knew that it was a globe. Actually, it is not perfectly spherical. It has been technically described as an "oblate spheroid", the shape of a slightly

flattened orange. While turning on its axis, the centrifugal force is most powerful at the Equator. This has caused a definite bulge in the equatorial region, at the expense of the polar regions which have been very slightly flattened. However, for all practical purposes, the earth is regarded as a globe.

It is between Venus and Mars in the solar system and has one satellite, the moon. It is 93 million miles away from the sun. Its equatorial diameter is about 7926 miles and polar diameter about 27 miles less. Its circumference is about 25,000 miles. Its area is 196,500,000 square miles of which only 55,500,000 square miles are land, rest being covered with water. Its age has been estimated at five billion years. The first living organism is said to have come into existence about 2 billion years ago.

Earth's Origin. There are several theories that attempt to describe the origin or birth of the earth planet. The problem is yet very ambiguous in character and is still a matter of dispute. The final word, if it can be final really, is yet to come in this connection. The ancients believed that the sun had an head-on collision with another star and the resultant violent impact tore away from the huge body a number of gigantic drops and sent them spinning into the space at a terrific speed. These "drops" later cooled off and became the present planets, one of them being our earth.

According to the famous Nebular Theory, far back* in the past the sun was a great gaseous nebula consisting of a dense nucleus, beyond which extended an immense atmosphere. The nebula was originally rotating and was losing heat through radiation. This produced a contraction which, in turn, caused the equatorial bulge and polar flattening. In the process a ring was shed from the equatorial bulge. This action repeated several times. Each ring, while rotating, cooled and condensed into a planet. Another theory relates that not the cooling off or the contraction of the sun nor the head-on collision of sun and a star but the swiftly passing approach of a star generated immense tides in the sun resulting in the separation of a gaseous filament. This filament broke up into several fragments, giving rise to a number of planets. These cooled and contracted and started revolving round the sun. All these theories, being predominantly catastrophic, fail to account for the uniformities and also the immense distance among planets in the solar system.

The latest theory, however, says that the earth probably has grown by the accretion of relatively cool materials which were not molten at the outset. Many scientists strongly favour this cool type of origin of earth. Our conceptions of the development of earth are yet obscure. It is even uncertain whether the earth today is cooling or heating at depth, but the odds seem to favour the hypothesis of a heating earth. Man, therefore, continues to wonder about the unravelled mystery of God's creation—the Universe.

*After a study of quasars, the Soviet astrophysicists have determined the age of the universe to be 70 billion years instead of 10 billion years, as generally assumed.

The Poles. The earth has its axis, the imaginary line on which it rotates. One end of this axis is called the North Pole and the other the South Pole. The two poles are also called the magnetic poles. In 1960, the north magnetic pole was placed at about latitude 75° North, longitude 101° West and the South magnetic pole at about latitude 67° South, longitude 143° East. Geographical research suggests that magnetic poles were far from present locations, in past geologic time.

Origin of Sun. Most of the cosmic theories try to explain the origin of planets but not the origin of the sun. A more recent theory—the Isotope Theory—of a scientist named Harold Clayton Urey I states that powerful telescopes have shown certain black spots in the great nebulae. Investigations indicate that these are opaque globules of the dust and gas, of about mass of the sun. Studies suggest that if somehow these vast accumulations could be compressed, gravity would collapse the globules into a tight mass. The pressure and temperature that would result from such a collapse would be enough to start a thermo-nuclear reaction in the star and it would turn into a blazing sun.

The old theories which, in addition, also explain the creation of Solar System are those already mentioned under the "Earth's Origin".

The Solar System. It is the name given to the sun and the group of planetary bodies including their moons, the asteroids, meteors and comets. The planets, nine in number, are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto. They circulate around the sun in the same direction in elliptical orbits and at varying distances. The comets move in either direction. The planets include a number of moons which revolve round the planets. All these bodies derive their light and heat from the sun, except the comets whose light is largely their own.

The four planets, Mercury, Venus, Earth and Mars, are called the inner planets because of their relative nearness to the sun. Beyond Mars lies the belt of asteroids and the outer planets, Jupiter, Saturn, Uranus, Neptune and Pluto. Uranus was discovered in 1781, Neptune in 1846 and Pluto in 1930. (*J.A.S.*, 1953)

THE EARTH IN MOTION

Rotation of Earth. The earth rotates from west to east on its imaginary axis. This gives the impression that the sun and stars travel from east to west. The sun illumines half the globe at one time; the other half remains in darkness. Thus are caused the day and night. The earth completes its rotation in 24 hours.

In addition to causing days and nights, the rotation of earth has the following effects :

1. It gives the means of measuring time. This may, in other words; mean formation of parts of the day and night. For example the part just turning towards the sun has the sunrise ; the part that is fully turned towards the sun has the noon ; the part turning away from the sun has sunset and the part completely away from the sun has the midnight.

2. It causes change in the direction of winds and currents.

Revolution of Earth. As mentioned earlier, the earth has an elliptical (oval-shaped) orbit round the sun. It is important to know: (1) That the earth completes its revolution round the sun in $365\frac{1}{4}$ days. (2) That the earth travels with its axis* tilted towards the plane of its orbit to the extent of $23\frac{1}{2}^\circ$. (3) The axis always points towards the same fixed point in space—the Pole Star.

We observe that sometimes days are longer than nights and *vice versa*, and on some dates they are of equal duration. Moreover, the rising and setting of the sun are not uniformly timed nor are they always in exactly the same direction. Same is the case with seasons. The summer is followed by autumn, autumn by winter, winter by spring and spring by summer again. The circle goes on. This phenomenon is due to the earth's axis being inclined $23\frac{1}{2}^\circ$ towards the plane of its orbit. This axis of rotation remains inclined at the same angle throughout the revolution. Thus the direct rays of the sun fall on different parts of the earth at different times and change of seasons results. Let us summarize the position as under with reference to Fig. 3.

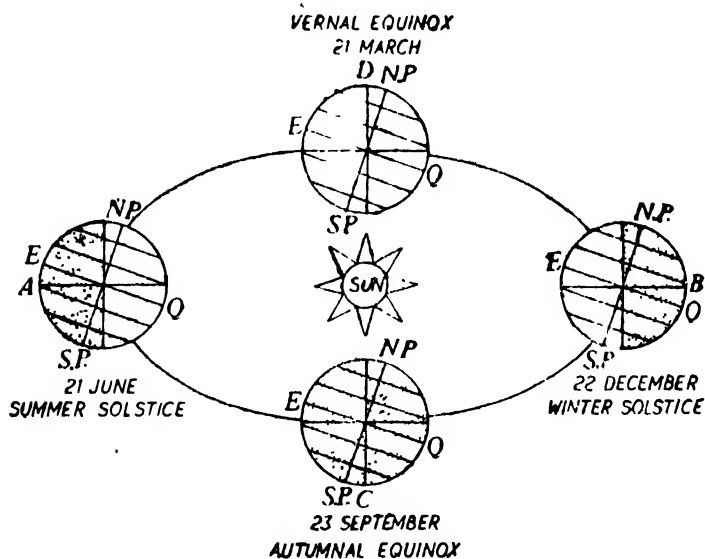


Fig. 3.

Position A. It is called the Summer Solstice. In this position the Northern Hemisphere receives the more direct rays of the sun, which have the greatest heating capacity. The days are longer than nights. So there is summer in the Northern Hemisphere. Near the North Pole, there is day for 24 hours. Conversely, there is winter in the Southern Hemisphere and night for 24 hours near the South Pole.

*Earth's axis is inclined to the plane of the ecliptic by an angle which is slowly decreasing. Nearly 20 years ago, it amounted to 23 degrees, 25 minutes and 44.84 seconds.

Position B. It is called Winter Solstice. At this time, the Northern Hemisphere receives the slanting or indirect rays of the sun which have less heating power than the direct rays. The nights are longer than the days. So it is winter in the Northern Hemisphere. North Pole has a 24-hour night. Conversely, it is summer in Southern Hemisphere. South Pole enjoys a 24-hour day.

Position C. Autumnal Equinox. Autumn in Northern Hemisphere and spring in the Southern Hemisphere.

Position D. Vernal Equinox. Spring in Northern Hemisphere and autumn in the Southern Hemisphere.

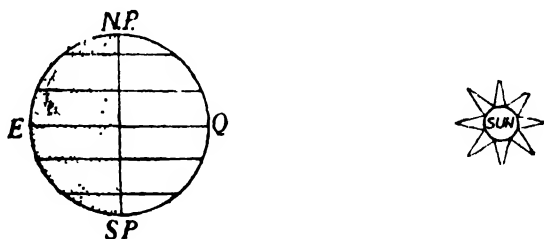


Fig. 4.

On 23 September and 21 March (equinoxes), the sun is above the horizon twelve hours and below it twelve hours. The daylight and darkness periods are equal. The sun rises at 6 A.M. and sets at 6 P.M. These dates are, therefore, called equinoxes.

If the axis of the earth were to be perpendicular to the plane of its orbit as in Fig. 4 above, the sun's rays would always fall vertically upon the equator. The shadow circle would always pass through the Poles and all places in the world will have 12 hours' daylight and 12 hours' darkness every day. Hot and cold seasons would no longer follow each other. All places would have either hot, cool or cold climate, according to their position throughout the year.

The Midnight Sun. Due to the obliquity of the earth's axis, the North Pole remains inclined to the sun from 21 March to 23 September during which time it is continuously day there. Thus the sun is seen even at midnight in Norway, Greenland and Northern Russia. Norway is generally called the "Country of the Midnight Sun". On the other hand, the South Pole is in continuous darkness for these six months. During the next six months, the position changes in the other direction and the South Pole enjoys day of six months while North Pole has a night of the same duration.

THE ZONES OF THE EARTH

The Frigid Zone. The journey of the sun between the tropics is responsible for the change in seasons. It also divides the earth into different climatic zones. The circle drawn $23\frac{1}{2}^{\circ}$ from the North Pole is called the Arctic Circle (Fig. 5) while the similar one on the South Pole is named Antarctic Circle. The regions covered by the two circles are called the North Frigid Zone and the South

Frigid Zone respectively (See Fig. 6). In this zone at least one day in a year, the sun does not appear beyond the horizon. At the Poles there is a six months' night and six months' day. Over a large part of this region, the temperature is below freezing point for the greater part of the year. The zones are also called the "home of the blizzards".

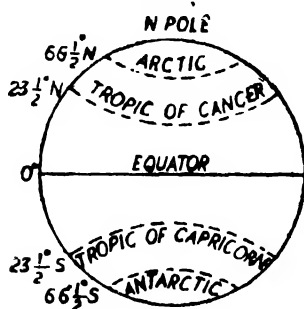


Fig. 5.

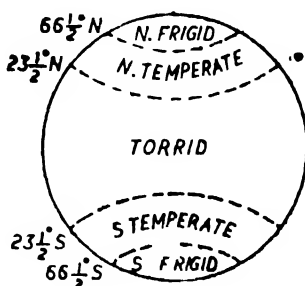


Fig. 6.

The Temperate Zone. The North Temperate Zone lies between the Tropic of Cancer and the Arctic Circle and the South Temperate Zone between the Tropic of Capricorn and Antarctic Circle (Fig. 6). In the Temperate Zone, the sun is never in the zenith. Summer has long days and short nights and winter has long nights and short days. The climate is not of extreme type. The Temperate Zone is divided into three sub-zones as under :

Sub Tropical—This is to be found near the tropics. It has long hot summer and short cool winter.

Central—The summer and winter are about equal in length. It is warm in summer and cool in winter.

Sub Arctic—This is to be found near the Arctic Circle. It is characterised by short, warm summer and long, cold winter.

(*Air Force, 1957*)

The Torrid Zone. It lies between the Tropics and is bisected by the Equator. At every place in the Torrid Zone, the sun is in the zenith twice during the year. The Zone is always hot and seasonal change of temperature is much less than in other zones.

AGENTS OF CHANGE ON EARTH

The earth is in a state of continuous change. Weathering and denudation are the two chief processes of breaking up and wearing away the earth's surface. The earth material is broken away at one place and deposited at another.

Weathering. It is decomposition of rocks near the earth's surface by atmospheric agencies, e.g., sun, rain, wind, water, etc. It involves mechanical processes like expansion and contraction resulting from sudden temperature changes and impact of running water. The chemical processes include oxidation, carbonisation and loss of chemical elements by solution in water. Results of weathering include formation of soil and preparation of materials for erosion.

Denudation. It is action of the weather, rivers and sea upon rocks. Firstly, it causes the disintegration of rock masses and secondly the denuding agents, rivers, wind etc. transport the looser materials to lower levels. Sometime rivers with their source in snow on distant mountains flow through a rainless area. Their flow continues to cut their beds downwards. As there are no side-streams due to paucity of rains, the continued erosion of loose material results in a deep valley called a Canyon such as the valley caused by Colorado river in North America.

Subaerial denudation is due to frost, glaciers, changes of temperature, wind, rain and the chemical action of solvent waters of rivers. By denudation, a granite may be decomposed into micaceous sands and china clay, while sedimentary rocks are built up from the debris of older ones.

THE CLIMATE

Climate refers to the general character of the atmosphere with respect to temperature and other phenomena such as precipitation, humidity, wind and barometric pressure, so far as they affect plant and animal life. Climate is, therefore, an outstanding factor in man's life. It determines how and where he should live and what and how he should produce to sustain life and also what kind of plants and animals will flourish in a particular locality. The chief causes that determine the climate of a place are :

1. **Latitude.** On an average, temperature decreases from the Equator to the Poles. Places near the Equator are hotter than the others away from it, because at Equator and nearabout the rays of the sun fall vertically throughout the year.

2. **Altitude.** Temperatures decrease as one goes upward from earth. Thus places at higher altitudes (height above sea level) are cooler (colder) than those in the plains. The heat absorbing capacity of air depends on its density and the quantity of water vapour and the dust particles it contains. Since the air of high altitudes is rarefied, it can absorb less heat than that of the plains. Moreover, the thin air of high places radiates more quickly at night the heat absorbed during the day.

3. **Nearness to Sea.** The seaside places are warmer than adjacent land in winter and cooler in summer. Moist breezes from the sea temper the climate making it equable throughout the year.

4. **The Prevailing Winds.** The winds that blow in Northern India from the sides of Tibet and Himalayas make the climate extremely cold whereas those blowing in the same region during summer from Rajasthan desert make it unbearably hot.

5. **The Ocean Currents.** Ocean currents modify the temperature of winds blowing over them. In other words, the warm currents raise and the cold currents lower the temperature of such winds. Warm currents also increase the rainfall of lands to which they flow. The warm Gulf Stream Drift makes the climate of the British Isles milder during winter while Labrador, though at the same altitude, remains frozen for nine months in the year due to cold Labrador Current.

6. The Direction of Mountains. The mountains shelter the areas beyond them from the cold winds. On the other hand, the mountain ranges that run at right angles to the prevailing winds cause heavy rains on their windward side and dry conditions on their leeward side. The southern slopes of the Himalayas have a heavy rainfall while the northern slopes are dry.

7. The Slope of the Ground. South-facing slopes are warmer than north facing slopes as the former are sheltered whereas the latter are exposed to the cold north winds. Thus Siberia is extremely cold because the general slope of the land is northward from the great continental watershed. The southward slopes of the Himalayas are relatively warmer and are particularly favourable to plant life.

8. The Nature of Soil. Different kinds of soil absorb heat at different rates. The alluvial soil of lower Ganges basin has a lower temperature whereas the sandy soil of Rajasthan promotes rapidly heated and suddenly cooled temperatures.

9. Amount of Vegetation. Vegetation has a tempering effect upon climate and by checking evaporation, it helps to keep the soil moist. It has been observed that the areas denuded of forests become hotter and do not help bring in more rains. (*N.D.A., 1966*)

WINDS AND RAINS

The Atmosphere. The gaseous envelope round the earth is called atmosphere. Extending up to a height of about 200 miles from the earth, the atmosphere constitutes nitrogen and oxygen gases in the ratio of 4 to 1. Smaller quantities of carbon dioxide and water vapour are also present. With the increase in altitude, the atmosphere becomes more rarefied and at very great heights breathing becomes difficult. Unlike water, air is compressible and can be squeezed in a much smaller space.

Variation in Pressure and the Winds. Due to various causes such as presence of water vapours, movements of air, differences in temperature and rotation of earth, the earth pressure varies from place to place. The variations in atmospheric pressure cause winds. The air moves over the surface of earth from areas of high pressure to areas of low pressure. The area of a low pressure is a region where, due to heat, the air gets heated up, expands and becomes lighter. Then the cooler and heavier air of the surrounding areas moves in towards the low pressure regions. These air currents are called winds.

Due to intense heat near the Equator, the wind gets heated, expands and, as a result, an area of low pressure is created. The heated air rises and blows towards the cooler Poles where it is cooled, gets heavy and descends again near 30°N and 30°S (see Fig. 7). So near these latitudes on either side of the hemisphere, the atmospheric pressure is high. On the other hand due to earth's rotation, a depression is created round the Poles and the air is pushed away towards the Equator, i.e., about 30°N and 30°S. Thus this area is always an area of high pressure. These are also called Horse Latitudes. The winds that blow towards the Equator

are called TRADE WINDS and those blowing towards the Poles are called WESTERLIES. The Trade Winds and Westerlies

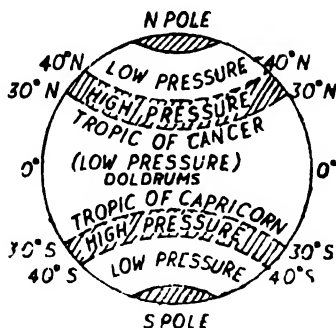


Fig. 7.

belong to the class of constant winds and, in addition, there are the Periodical Winds namely the Sea Breezes, Land Breezes and the Monsoons. The Monsoons are the winds that blow for six months from the sea to the land and for the other six months from land to sea. There are also Variable Winds, cyclones and anti-cyclones, that influence the temperature of Northern India especially during winter.

Rainfall. Rain is caused when the vapours in the atmosphere are condensed into water owing to lowering of temperature below dew-point. Condensation first results in the formation of minute drops which float in the masses forming clouds and as the process continues these drops coalesce, forming larger drops, whose weight causes them to fall as rain. There are three kinds of rains as follows :

1. *Relief rains* that are caused by the surface relief of the land. A mountain system or a range of hills make the winds deflect upwards and thereby condensation takes place. The hills that intercept the winds have heavy rains on their windward sides.
2. *Convection rains* that occur in the Equatorial regions. The moist winds are sucked into the "Convection currents" of highly heated regions and the result is heavy rains.
3. *Cyclonic rains* are those that are caused by the cyclonic pressures. Though there are some regions where the cyclonic rains are most common, yet such rains are not strictly restricted to these regions only. They occur elsewhere too.

Determinants of Rainfall. The circumstances on which the rainfall of a place depends are : (1) Distance from the Equator, (2) Distance from the Sea, (3) Direction of Mountain Ranges, and (4) Direction of Winds.

The Stages of a River. The course of a river can be divided into three parts :

The Mountain Stage. A river, in its upper part, flows through mountains, where the river's current is fast, its course serpentine and its chief function is to wear away the rocks and take along the earth and stone particles. During this stage of

the river, navigation is not possible. Some waterfalls are, however, utilised for generating power.

The Plain Stage. During this stage, the river, after leaving the mountainous range, flows into the plains. Its current is slowed down and the river is now, under conditions being favourable, fit for navigation and irrigation. The river, however, continues to erode one side of its bank and deposit it on the other. The alluvial soil and stone particles that it brings along from the mountains are partly deposited here.

The Delta Stage. This is the lower part of the course of a river where the current of a river is the slowest which helps in depositing the mud and earth that it brings along from the earlier stages. Here the river divides itself into small channels called distributaries. The triangular shaped land between these distributaries is called a Delta. Delta is the fourth letter of the Greek alphabet and is written as Δ . This resembles to a certain degree the formation of deltaic lands by various distributaries or channels.

THE OCEAN TIDES AND CURRENTS

The Oceans. The chief Oceans are :

1. *The Atlantic Ocean.* Shaped like an irregular S, it is bordered by the countries of Europe, America and Africa.

2. *The Pacific Ocean.* Having North America and South America on its east and Asia and Australia on its west, it is the largest ocean in the world.

3. *The Indian Ocean.* Situated in the centre of the old world, it constitutes the Bay of Bengal, the Arabian Sea, the Persian Gulf and the Red Sea. It is bounded by the east coast of Africa, Arabia, Pakistan, India, Ceylon, Burma and the South East Asian countries.

4. *Arctic Ocean.* Situated round the North Pole it remains frozen.

5. *The Antarctic Ocean.* Situated round the South Pole, it has a vast ice-covered continent Antarctica, which is barren of plant or animal life.

The Tides. The most interesting of ocean features is the ebb and flow of the tide. The chief cause of the tides is the attractive power of the moon and the sun. The moon is much the smaller body, but it exerts a greater pull than the sun because it is so much nearer to the earth. Since the attraction of the moon is greater on the mobile water than on the centre of earth, the water rises and produces a high tide. Another tide is produced at the same time on the opposite side of the Earth (See Fig. 8). The tide does not occur again after exactly 24 hours but after 24 hours and 50 minutes. However, if the moon were stationary, the next high tide would have occurred exactly after 24 hours.

Sun alone cannot produce a tide. The tides, in fact, are caused by the difference of attractions exerted by the moon and the sun on the surface of water and centre of the solid earth. As sun is at a very great distance from earth, its pull on the centre of the solid earth and the surface of water is almost the same

meaning thereby that the difference of attraction on the above two parts is almost negligible. But the difference of the two

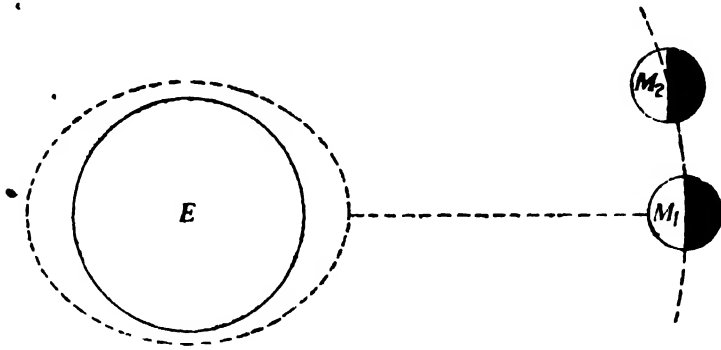


Fig. 8.

attractions is sufficiently significant in the case of moon. The result is the high tides. (Fig. 8).

Spring Tides. At new moon and at full moon, the sun, the moon and the earth are positioned in a straight line. Thus the sun and the moon exert their influence together and cause a higher tide. This is called the SPRING TIDE. (Fig. 9)

(N.D.A. 1966., L.D.C., 1966)

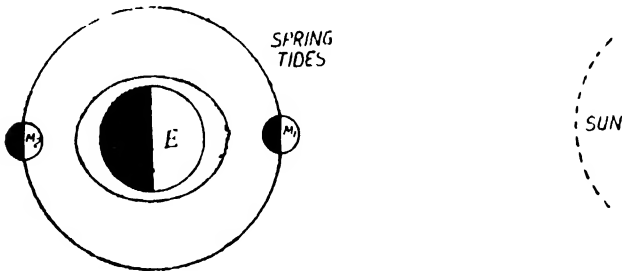


Fig. 9.

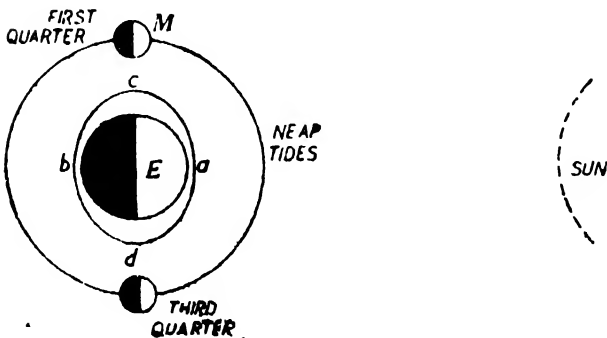


Fig. 10:

Neap Tides. At the first and the third quarters of the moon, when the sun and the moon are at right angles to each other, the tide produced by the difference of their forces is consequently lower than usual. This is called a NEAP TIDE. (Fig. 10)

(L.D.C., 1966)

The tides are extremely useful as they : 1. by increasing the depth of water help big ships to enter ports and go farther inland; 2. clear the estuaries of the rivers by taking away the mud that the rivers bring to the mouth of their fall into the sea; 3. prevent the water from freezing; 4. carry away the town refuse by an outward movement of the tide.

Ocean Currents. Ocean currents are "rivers" of cold or hot water in the sea, the beds and banks of which are composed of other sea water. Ocean currents belong to two main types : (a) *Drifts*, which are produced by the action of winds upon the ocean's surface; and (b) *Streams*, which are born as a result of the establishment of a difference in level.

The factors that cause ocean currents in general are as follows: 1. Temperature differences and convection; 2. Winds; 3. The shape of land masses; and 4. The rotation of the earth. The "Constant Winds" blow steadily upon the surface of the ocean, day after day throughout the year. Hence in the Torrid Zone there are two drifts flowing towards the West and in the Temperate Zones there are drifts flowing towards the East. These currents exist in both Atlantic and Pacific and in the southern part of the Indian Ocean. In the Bay of Bengal and the Arabian Sea, the currents obey the Monsoons. They change their direction with the Monsoons.

Currents of the Atlantic Ocean. 1. The Antarctic Drift. 2. The Benguela Current. 3. The South Equatorial Current. 4. The Brazilian Current. 5. The Gulf Stream. 6. The North Equatorial Current. 7. The Canaries Current. 8. The Labrador and Greenland Currents.

Currents of the Pacific Ocean. 1. (A Branch of) The Antarctic Drift. 2. The Peruvian Current. 3. The South Equatorial Current. 4. The New South Wales Current. 5. The North Equatorial Current. 6. The Warm Kuro Siwo (or Japan Current) 7. The Californian Current. 8. The Kurile Current.

Currents of the Indian Ocean. 1. The West Australian Current. 2. The South Equatorial Current. 3. The Mozambique Current.

The Effects of Ocean Currents on Climate.

1. Warm equatorial currents raise temperature whereas the cold polar currents lower it.

2. Labrador and British Isles are on the same altitude. Labrador experiences icy cold climate for 9 months on account of the influence of cold Arctic Current while British Isles have a mild climate on account of the effects of the warm Gulf Stream Drift.

3. The hot climate of Peru is greatly tempered by the Humboldt Current.

4. Gulf Stream keeps the harbours of Norway open and free from ice throughout the year.

5. The east coast of North America remains warm on account of the warm Kuro Siwo.

6. The hot currents impregnate the winds that blow over them with vapour, causing heavy rainfall over the coast where they flow.

7. When the hot and cold currents meet, they produce wide-spread fog.

Effects of Ocean Currents on Commerce:

- 1. Harbours are kept open and operational.
- 2. Ships are aided or hindered by the direction of the currents.
- 3. Cold currents help cooling the tropical seas and attract large number of fish to be caught for food.
- 4. Water of the ocean is kept pure.

NATURAL REGIONS

A natural region is an area or a geographical unit within which, for reasons of similarity of climate, vegetation and other natural and environmental conditions, people lead a uniform existence. The world may be divided in the following natural regions:

1. **The Equatorial Type.** The equatorial type of climate is found between 0° and 5° North and South of the Equator. Here the temperature is high (about 80° F) and uniform, the nature of season remaining almost the same throughout the year. The rainfall is also heavy—over 80 inches in a year—and there is no dry season. It has been said about the Equator that the rain follows the sun. The vegetation of this region is characterised by dense tangled forests. The great heat and moisture encourage a large variety of plants to grow. The inhabitants live mostly by hunting or on fruits and other plants that grow wild. They are mostly primitive and averse to strenuous work. The countries where equatorial climate is found are Amazon Basin of South America, the Congo Basin of Africa, northern tip of Australia, parts of Ceylon, Indonesia and Malaysian Peninsula.

2. **Savannah Type.** This region lies about 5° North and 5° South of the Equator up to the Tropics and includes Venezuela, Guinea, the Sudan, Kenya, Angola, Rhodesia, Tanzania, S.W. Brazil and Queensland and North of Western Australia. Savannah Lands are called "llanos" in Venezuela, "downs" in Australia and "campos" in Brazil. Here the heat in summer is still 80° F but there is a comparatively cooler season also when the temperature may fall to 60° F. The rainfall is less than in the Equatorial region and is followed by a long dry season. Tall grass is the prevailing type of vegetation with scattered trees in the wetter regions. People are engaged in hunting and primitive agriculture but crops such as millet, maize, groundnuts, cotton and tobacco are grown wherever irrigation is available.

3. **Hot Deserts.** This region lies 29° - 30° North and South of Equator on the Western sides of the continents. The countries that lie in this region experience intensely hot summers with temperature going up to 90° F and winters having temperature 50° to 60° F. This region includes Colorado Basin and Lower California in North America, North Chile and Western Bolivia in South America, the

Arabian deserts, the Sahara and the Kalahari in Africa, the Sind in Pakistan and the Great Australian Desert (West Australia). Due to extremely scanty rainfall, there is no vegetation except dry cactus, and thorn bushes grown here and there. Life is almost impossible and the primitive tribes that inhabit these regions have mostly wandering existence. Areas near the oases where date palm grows witness some human activity. Minerals found in the region are gold (Australia), copper and diamonds (Kalahari) and petroleum (California).

4. The Monsoon Type. This region includes India, Pakistan, Ceylon, Burma, Thailand, Indo-China, South China, the Philippines and North Australia. As the region receives strong in-blowing, moisture-bearing winds from the sea in summer, the rainfall is fairly heavy. Temperature too remains comparatively higher throughout the year. There are two clearly marked wet and dry seasons. Owing to heat and moisture, the region has some most productive areas and settled agricultural population. Forests are in abundance. The crops raised on cultivated land are rice, sugarcane, tea, cotton, maize, tobacco, wheat, millet, jute and oilseeds. The region has one of the most densely populated areas in the world.

5. The China Type. The region lies in the S.E. United States, North and Central China, Korea, S.E. coast of Brazil and Uruguay, Natal in Africa and eastern coast strip of Australia. The climate in this region is fairly similar to that of the Monsoon region but rainfall here is less and temperature throughout the year is also lower. The natural vegetation includes oak, beech, mulberry and bamboo and cultivated crops are rice, tea, sugarcane, maize, cotton, tobacco, wheat and millet. Agriculture, silk raising, tea plantation etc. are most profitable occupations. Some of the areas like Japan are highly industrialised and most prosperous.

6. The Mediterranean Type. Lying about 30°-45° North and South of the Equator and occurring generally on the Western sides of the continents, this region has countries bordering the Mediterranean Sea. California (U.S.A.), Central Chile in South America, Southern tip of South Africa and S.W. and S.E. Australia. The summers are fairly hot with temperature about 80°F, the winters are mild and rainfall occurs only in the winter months. The hottest part of the season is dry. Forests occur at wetter places and grass is not usually found. Natural vegetation includes vine, evergreen shrubs, and drought resisting plants like oak, cork, olive etc. Wheat, barley and fruits, particularly vines, oranges, lemons and figs are grown. Wool and wine-making are chief industries of this region.

(*Indian Navy, Dec. 1961; I.M.A., April, 1962*)

7. The Steppe Type. This region lies in the centre of the continents in temperate latitudes with extremes of temperature. The summers are warm and winters very cold. Rainfall is slight—about 20"—which occurs in spring and early summer. Winters experience snowfall. The vegetation is mostly grass without trees. The cultivated crops are wheat, barley and maize. Sheep and goats are reared. The region is most suited for cattle raising. It includes Prairies of North America, Steppes of Europe and Asia, Pampas of South America and some parts of Africa and Australia. The

people of the Central Asian prairies have been nomadic but are fast catching on civilization.

• **8. West European (British) Type.** This region is found on the west coast of continents on the poleward side of latitude 45° and includes areas of North West Europe including the British Isles, British Columbia, South Chile, Tasmania and some areas of New Zealand. The climate of this region is characterized by cool summers and mild winters with moderately heavy rainfall evenly distributed throughout the year. The home of deciduous forests as oak, ash, beech and birch, the region also produces wheat, oats, rye, barley and beet sugar. This region is highly industrialised and agriculture is also mechanised and science-oriented. The burden on land is not much as the people are engaged in various manufacturing industries.

9. Eastern Type (Cool Temperate Eastern Margins). This region corresponds to the same latitude as that of the West European Type with the difference that the region includes areas on the eastern sides of the land masses and differs from the former type in having a more extreme climate, with less rainfall. The summers in this region are the wettest part of the year. Winters are cold. Here the forests are of coniferous and deciduous trees. The cultivated crops are oats, barley and wheat. Densely populated and industrially well-developed, this region includes Eastern Canada, N.E. United States, S.E. Siberia, Manchuria and North Japan.

10. Central Portion of the Temperate Region (Siberian Type). This region occurs in the centres of continents, and is more extreme in its temperatures than the earlier two types. It resembles, to some extent, the Steppe Type. Here in this region, the summers are cooler, making the slight rainfall that it has sufficient for farming. The vegetation is grassland, with coniferous forests in the North where the summers are cooler. Winters are extremely severe and the temperature falls below 0°F. There are extensive soft-wood forests in this region. Population is sparse and wood-cutting is the chief occupation. Siberia, Northern Russia, Scandinavia and Canada (less St. Lawrence Valley) comprise this region.

11. Tundra Type. It includes north of North America (North Canada) and northern-most areas of Europe and Asia. The climate here is intensely cold and the areas remain generally under snow throughout the year. The highest temperature is only 50°F. Only a very sparse vegetation is found. Ground being frozen for a greater part of the year, deep-rooted plants cannot thrive. Low growing stunted bushes, mosses and lichens, with patches of grass in the more sheltered spots form the vegetation cover. Agriculture is just impossible. The inhabitants make a precarious living by hunting seal, walrus and bear. Reindeer which can live on scanty vegetation and from which people obtain flesh, milk, skin etc. is the most useful animal of the region.

DISTRIBUTION OF ANIMALS

Animals, like humans, require food and climate that suit them and proper protection. For example, luxuriant vegetation of the Tropics is the reason for the existence of largely heavy animals in

those areas. In addition, the animals have protective colouring very similar to their natural surroundings. This helps to protect them from their enemies or conceal them from their prey. The following animals are found in the various climatic regions :—

Hot Lands. Elephants, deer, antelope, zebra, giraffe and the rhinoceros. The beasts of prey include, lion, tiger, leopard etc. and those under water are crocodiles, alligators, and the hippopotamuses. The camel is found in the desert regions. Birds of ostrich kind are also found.

Temperate Lands. Here are found the hoofed animals such as horse, the ass, the ox, the pig, the sheep, the goat and the deer. Carnivorous animals are wolf and wild bear.

Tundras. On the surface are found fox, the sable and the reindeer. In the sea, polar-bears, whales, seals and walrus are very common. The yak is found in Tibet.

Australia. The Australian animals are quite different from those of the rest of the world. The mammals of the other continents are completely absent. The pouch-bearing Kangaroo and the odd platypus or duckbill (which is a mammal but lays eggs) are found. The birds here are songless, like ostrich and the emu. Now cows, sheep, horses and pigs have been introduced by the Europeans.

Distribution of useful Commodities

Wheat. It requires cool climate in the beginning, dryness and warmth at the end and a few rainfalls in between. It is grown in U.S.A., Russia, India, Pakistan, France, Canada, Australia, Argentina and Hungary.

Barley. It requires same climate as wheat requires. It is cultivated in Russia, Germany, U.S.A., Austria, Hungary and India.

Maize. Its original home is America from where it was introduced in various countries. It is grown in latitudes from 50°N to about 40° South. It is human as well as animal food. It is cultivated in the U.S.A., Africa, Austria, Hungary, Italy, India, Argentina and South Africa.

Rice. India, Burma, Ceylon, Far Eastern and South Eastern countries, Thailand, China, Japan and South Carolina (USA).

Tea. India, Ceylon, China, Japan, Indonesia and South Africa.

Coffee. Brazil, Columbia, Indonesia, India and West Indies.

Sugarcane. West Indies, India, Mauritius, Hawaii, Australia, Fiji, Brazil, South Africa and South China.

Sugar beet. Germany, Austria, Hungary, Russia, France and Belgium.

Cocoa. A tropical plant, originally belonging to America, but now extensively grown in Ecuador, Brazil, Trinidad and Ceylon.

Rubber. It is the solidified juice of a tree of the equatorial forest, generally found in Congo Valley, the Amazon Valley, the East Indies and Malaysia. It is also grown in India, Burma and Ceylon.

Grape. France, Italy, Spain, Portugal, Austria, Hungary, Algeria, Southern Australia and California (USA).

Cotton. U.S.A., India, U.A.R., Brazil, China and Japan.

Wool. Australia, New Zealand, South Africa, Argentina and India.

Silk. China, Japan, Italy, France, Turkey, Persia and India.

Flax. It is chiefly cultivated in the U.S.A. and Argentina.

Tobacco. A plant of the Tropics, it is grown over a wide range of climate between 44°S and 55°N latitudes in Cuba, Philippines, U.S.A., France, Germany, Italy, Bulgaria, Turkey, U.A.R. and India.

Distribution of Minerals

Coal. U.S.A., Great Britain, Germany, France, Belgium, Austria, Russia, India, Canada, South Africa, East Australia and Japan.

Iron. United States, U.K., Germany, Spain, Sweden, Russia and India.

Petroleum. U.S.A., Venezuela, Baku (U.S.S.R.), Mexico, Iran, Rumania, Burma, East Indies, Poland, Iraq, Columbia and India.

Gold. Transvaal (South Africa), the U.S.A., Australia, Russia, Canada and India.

Silver. Mexico, U.S.A., Canada, Bolivia, New South Wales and Germany.

Diamonds. Cape Province (at Kimberley) and Brazil.

Tin. Malaysia, Bolivia, Indonesia, Congo, Nigeria and Cornwall (England).

Copper. U.S.A., Canada, Chile, Congo, Mexico, Spain, South Australia and Japan,

Aluminium. U. S. A. and Canada.

Lead. Spain, Germany and U.S.A.

Zinc. U.S.A. and Australia.

Glass. Birmingham (U.K.), Paris (France), Venice (Italy) and Belgium.

The Human Races

Man has taken thousands of years to reach the present stage of development. He passed through the Stone Age, the Bronze Age, the Iron Age and the Steel Age to enter into the present Atomic Age or the Nuclear Age. What is known of the most ancient, pre-historic man has been learnt from tools, pottery and fossils of human bodies discovered in the earth. However, the dawn of history discovered the human race divided into three distinct races, occupying their respective regions on earth. They were :

1. **The White or Caucasian.** The white races were in possession of Europe, Northern Africa and South West Asia including India.

2. **The Yellow or Mongolian.** It was distributed over a fairly large area comprising Central and Eastern Asia and the North and South Americas. According to some theories, the Brown Mongolians (the Malays) and the red ones (American Red Indians) were distinct races with no physical contact or social affinity due to the existence of long distance and the sea between them.

3. **The Black or Negro.** These races were found in Africa, South of Sahara, parts of East Indies and Australia. Some anthropologists opine that the Dravidians of South India were also a section of the early Negro race which later saw considerable transformation due to mixing in it of various other non-Negro races before the advent of Aryans.

Inter-Continental Movement of Races. History records that after the tenth Century A.D., the above races, some of them forced by growing population or governmental persecution while others for adventure and conquest, made strides to migrate to the neighbouring continents. During the thirteenth Century A.D., the Mongols—or Tartars—overran parts of Asia and Europe and brought whole of Russia and Siberia under their effective control. The Magyars, the Lapps, the Bulgars and the Turks left their respective habitats and spread to all directions. In the fifteenth and sixteenth centuries, the Whites moved far and wide to establish their colonies in Americas, Africa, Australia, New Zealand and Southern Siberia. But the Black races have shown no love for wandering and the Negroes met with in Americas and elsewhere are the descendants of those Negroes who were whisked away to the New World by the Whites as their slave labour. The present century has seen a strange admixture of races on every continent and with the increasing cooperation among the civilised nations, the territorial exclusiveness for a particular race has almost lost ground.

Population. The world population stands in the neighbourhood of 3600 millions, over half of which lives in Asia, only a fourth in Europe and an eighth in the Americas. According to UN estimates, world population will be 4,457 million by 1980—3247 million in developing countries and 1210 million in developed countries. Overpopulation will, therefore, be a serious threat to many countries, particularly in Asia.

SOME ANIMALS OF THE WORLD

Alpaca. A partially domesticated South American animal of camel family. It is bred in the highlands of Peru, Chile and Bolivia chiefly for its long, lustrous wool.

Antelope. Generalised name for hollow-horned ruminants, having appearance of a goat but beardless. About 150 species of the animal are found in Asia (including India), Africa, Middle East and America. The Indian antelope is named *nilgai* and *chasingha*.

Ape. Primates most closely resembling man, e. g., Gorilla, Chimpanzee, Gibbon etc. They stand semi-erect and have brain structure similar to man's.

Beaver. Rodent animal with soft brown fur and a long thick tail, found in Asia, Europe and America. It feeds chiefly on plants and bark. The animal is famous for its skill in building (shelters for itself). It is killed for flesh and scent.

Chameleon. A small, lethargic lizard of Africa and South Asia. Its skin colour changes with feelings and temperature.

Chimpanzee. See under *Ape*.

Coral. The skeletons of marine polyps. The principal species are found in the tropical seas and shallow waters.

Eel. Edible fish commonly found in the fresh waters of the Atlantic and Mediterranean. It has a snake-like body with minute scales embedded in the skin.

Giraffe. Ruminant mammal of Africa, found in South of Sahara. It is the tallest animal in the world and can live without water for long intervals.

Gnu. South African antelope resembling an ox.

Gorilla. Anthropoid ape native to West Equatorial Africa. It is the largest of the apes.

Hyena. Carnivorous quadruped allied to dog tribe. A nocturnal mammal, it is found in India, Iran, Asia Minor and Africa.

Ibex. Wild goat of the Alps with large recurved horns.

Kiwi. A nocturnal flightless bird native to New Zealand.

Koala. A tailless, stout but clumsy marsupial mammal found only in Australia.

Lynx. A savage fur-coated animal of the cat family found in Europe, Asia and North America.

Mongoose. A small weasel-shaped carnivorous mammal, indigenous to Africa and South Asia, and an uncompromising enemy of snakes and rats.

Musk deer. Small ruminant inhabiting Central Asia and having an abdominal gland containing the perfume called musk.

Mustang. Semi-wild horse of the American prairies.

Nilgai. The Indian name for the native antelope, found in the lowland districts of India.

Octopus. A pouch-shaped sea animal, found in temperate and tropical waters. It has eight sucker arms.

Okapi. An African ruminant of the giraffe family, found in 1901.

Ostrich. The largest living bird in the world. It is flightless and native to Africa and South West Asia.

Pelican. Large gregarious bird (a water fowl), found in tropical and sub-tropical regions of America and Europe.

Penguin. Flightless sea-bird inhabiting South Temperate and Antarctic regions.

Platypus. Semi-aquatic Australian egg-laying mammal, also called duckbill. This strange bird is indigenous to Australia only.

Porcupine. A heavy, short-legged, slow moving rodent with erectile barbed quills.

Reindeer. Gregarious, migratory mammal of deer family, found in Arctic and sub-Arctic regions.

Rhinoceros. An ugly looking, thick-skinned, massive herbivorous animal, frequenting swampy regions of India, South Asia and Africa. It has one or two horns on snout or forehead.

Salmon. Marine game fish which breeds in fresh water but later travels to salt waters. It is found largely in the Atlantic and Pacific oceans.

Sponge. A marine animal belonging to the *Phylum porifers*, having an individual organism and its body pierced by numerous pores.

Tiger. The large Asiatic carnivorous mammal of cat family. Its coat is usually orange-yellow striped with black. It hunts usually at night. It is indigenous to India and Africa.

Walrus. Large marine mammal, allied to the seals. It inhabits North Polar regions and is hunted by the Eskimos for its flesh, oil, hide and ivory (its canine teeth looking like tusks).

Whale. A warm-blooded marine mammal having no scales and reproducing and feeding its young ones like land mammals. It is found in Arctic and Antarctic Oceans and in Equatorial seas.

Wombat. An Australian pouched mammal. It is nocturnal, herbivorous animal, shy and gentle by nature.

Yak. An ox-like domesticated mammal of Tibet and Central Asia, reared for flesh and milk and as a beast of burden. It has long shaggy hair hanging down its body.

Zebra. Striped animal of the horse family. It has long ears, tufted tail and erect mane. It is native of Africa.

GEOGRAPHICAL AND ASTRONOMICAL TERMS

Abrasion. The erosive action of wind, water and ice on the surface of the earth.

Aeolian Deposits. Material which has been carried away by wind and deposited on the surface of earth.

Alluvium. Land built up of sediments deposited by running water of the rivers and streams. Common forms are alluvial fans and cones, river deltas and flood plains.

Altitude. Height or elevation of a place above the sea level.

Antarctic Circle. The circle that is drawn $23\frac{1}{2}^{\circ}$ from the South Pole shows the greatest limit of continuous light and darkness for all the 24 hours. It is called the Antarctic Circle. (See Fig. 5, page 125)

Antarctic Region. Situated round the South Pole, the region extends beyond Antarctic Circle (Lat. 66° S) to Lat. 50° S and is inimical to human life. It has only mosses and lichens and supports no year-round animal life except small wingless insects, microscopic organisms and penguins. In summer, whales, seals, birds and other penguins inhabit the coast and the sea.

Anti-Cyclones. It is a high pressure system in which the winds blow spirally from inside to outside. The winds' direction is clockwise in the northern hemisphere and counter-clockwise in the southern hemisphere. Due to the air being compressed and warm, no condensation takes place. The skies are clear and due to increased radiation the temperature is quite low. The frosts occur in the morning.

Antipodes. Term denoting places diametrically opposite to each other on the surface of earth. An imaginary line joining them passes through the earth's centre. For example, New Zealand is approximately the antipodes of Great Britain.

(I.A.S., 1955)

Aphelion. Means away from light. It denotes the position of earth in its orbit round the sun when it is most distant from the sun. This takes place about 21 June.

Aqueous Rocks (Stratified Rocks). These are the rocks which have been formed by the action of water. These are found in layers, e.g., clay, chalk, sandstone, salt, coal etc. The rivers and other waters broke up rocks, carried the material and deposited it in layers at the bed of the ocean or lakes. In course of time, this material became very thick and was hardened by its own weight. Such rocks are called aqueous, stratified or sedimentary rocks.

Archipelago. A group of islands. The name was first given by the Greeks to the islands in the Aegean Sea but was afterwards used for any group of islands. Archipelagos are most common in the southern part of the Pacific Ocean.

Arctic Circle. The circle which is drawn $23\frac{1}{2}^{\circ}$ from the North Pole shows the greatest limit of continuous light and darkness for all the 24 hours. It is called the Arctic Circle. (See Fig. 5 at page 125)

Arctic Region. Northern-most area of earth, centred about North Pole and Arctic Ocean. Its weather boundary varies seasonally but is arbitrarily set at Arctic Circle. There is abundant animal life (when there are warmer conditions) which greatly supports the Eskimo tribes. (Fig. 5 at page 125)

Artesian Well. A well made by drilling into a porous, water-bearing layer between two impervious strata. When a permeable rock lies between two impermeable rocks, and is open at both ends, the rain water enters it at the open ends and fills the whole of the permeable rock. If a hole is drilled through the impermeable rock reaching as far as the bottom of the permeable rock, the water gushes out of the hole as a result of hydrostatic pressure, of course dependent on the slope and rainfall. This is called Artesian well. Such wells are common in the Hoshiarpur District of Punjab and the Kangra District of Himachal Pradesh.

(IAS, 1952, 1955 ; IMA, 1966)

Asteroid (Planetoid). The asteroids, or planetoids, are a host of small planets, revolving around the sun between Mars and Jupiter. So far, the discovery of about 3,000 of them has been announced. The origin of these objects, according to Russian astronomers, is attributable to the collision of at least ten planets as against the commonly accepted theory that they are fragments of a single planet, at one time destroyed by an explosion.

Atmosphere. The gaseous envelope around earth, extending to nearly 200 miles. Lower layer—called troposphere—extends to tropopause, about 5 to 10 miles high, and then to stratosphere.

Atoll. Coral reef forming a circular piece of land around a lagoon. They are found in the Indian and Pacific Oceans and are usually grown over with coconut palms.

Aurora Borealis. It is a phenomenon seen at night in the Northern Hemisphere. It consists of beams of many-coloured lights quivering in the sky. It is seen in the north of Norway and in corresponding latitudes. A similar phenomenon in the Southern Hemisphere is called the *aurora australis* or southern lights. The exact cause of the phenomena is unknown but it is believed to be

connected with emanations of electro-magnetic nature from the sun.

Avalanche. Gigantic mass of snow or ice mixed with stones and earth, which fall from the mountains into the valleys causing extensive damage to life and property. Scientists divide avalanches into four kinds : (1) Drift avalanche—snow driven by the wind. (2) Rolling avalanche—mass of hard snow that rolls down and becomes larger as it goes on. (3) Sliding avalanche—mass of snow that moves by its own weight and also gets larger as it moves, and (4) Glacial avalanche—masses of frozen snow and ice, which in spring, when the snow begins to melt, break loose from the parent glacier and begin to move.

Axis. The imaginary line that passes through the centre of the earth and round which the earth rotates. The northern end of the earth's axis is the North Pole and the southern end, the South Pole.

Barometer. Instrument for measuring atmospheric pressure. Aneroid barometer is a metal box, partially exhausted of air, its surface reacting to outside air pressure which registers on dial face.

Basin. Literally means hollow round metal or pottery vessel, contracting downwards for holding water. As a geographical term, it means the tract of country drained by a river and its tributaries.

Belts of Calms. There are three belts of calms as follows :—

1. *Equatorial Belt of Calms or Doldrums.* It lies between the North East and South East Trade Winds (permanent winds blowing in these directions from the Poles to the Equator) and within latitude 5°S and 5°N of the Equator. There is no horizontal movement of air here. Due to heat, air is always ascending, then cooling and falling in the form of rain. This belt is characterized by heavy rains and violent thunderstorms.

| | |
|---|---|
| 2. <i>Tropic of Cancer Belt of Calms</i> | } These lie near the Tropics of Cancer and Capricorn between the Trade |
| 3. <i>Tropic of Capricorn Belt of Calms</i> | |

Winds and the Westerlies. (Westerlies are permanent winds in the two hemispheres blowing towards the Poles). These regions are also called Horse Latitudes. There the air is always descending from colder to hotter regions. On account of increase in temperature, no condensation takes place. Hence all the deserts of the world lie in these belts. They are the deserts of Rajputana (Rajasthan-India), Iran, Arabia, the Sahara and California in the Tropic of Cancer Belt of Calms and the deserts of Australia, the Kalahari and the Atacama in the Tropic of Capricorn Belt of Calms.

Biosphere. Both animate and inanimate (organic) life on earth which includes men, animals, birds and plants. (*I.A.S., 1956*)

Black Soil. This is caused by the breaking up of black lavas into a dark heavy soil. It contains a good deal of iron and can retain moisture. This soil is ideal for cotton growing.

Block Mountains. Sometimes on account of an earth eruption, a stratum is found broken and dislocated causing unevenness in land. Geologists name it a fault. Sometimes two or more faults occur along lines almost parallel raising a portion of the earth to form a mountain, or subsiding it to make a valley. The mountain thus caused is called the block mountain and the valley formed in the second case is called the Rift valley. Vosges, mountains of Central Europe, ranging 150 miles along the west of the Rhine from Basle to Mainz are the famous block mountains and the greatest Rift valley in the world is one in which lie the river Jordan, the Dead Sea, the Red Sea, Lake Nyasa and other lakes of Central Africa.

Bore. Tidal wave of great height and force which appears in certain rivers at times of high or spring tides. In certain funnel-shaped estuaries of the rivers whose mouth directly meets the advancing tides, an unusually high sea tide brings about a violent uprush of water called a bore. There is a conflict between the river current and the tidal wave, resulting in a high wall of water moving up the river. The bore appears, among others, in the Severn, the Trent and other English rivers, in Hooghly (Bengal) and Yang-tse Kiang (China).

Brave West Winds. See under "Westerlies".

Calms, Belts of. See under "Belts of Calms".

Canyon. A deep ravine of valley made by a river cutting its way through a rock. The most famous Canyon in the world is the Grand Canyon of the Colorado river in Arizona. It is about 220 miles long and 10 miles wide with walls 6000 feet high.

Cape. The extreme end of the land that tapers off into the sea. Cape Comorin is the similar point of the South Indian peninsula extending into the sea. (M.C., 1958)

Chlorophyll. Green colouring matter of plants. It contains green and yellow pigments and chemically is related to the colouring matter of blood.

Cloud. Dense suspension in air of mass of watery particles at considerable heights. When condensed, these particles come down in the form of rain.

Cloudburst. A phenomenon in which a huge mass of moisture-carrying cloud bursts into a heavy downpour on account of condensation of all water vapours at the same time. The condensed vapours fall down as a sheet of water which causes extensive damage to life and property.

Col (Neck or Saddle). A depression in a mountain chain connecting two or more mountains. Such a depression is useful in mountaineering for establishing camps. Passes are formed across such depressions, also called saddles or necks.

Condensation. In physics, change in state of substance from gas to liquid. The air vapour coming into contact with the cold surface becomes visible. This process of turning vapour into visible forms such as dew, fog and clouds is as a result of condensation.

Confluence. The merging of two or more rivers or streams as of the Ganges, the Yamuna and Saraswati at Allahabad.

Coniferous Forest. A forest of trees and shrubs of order Coniferales, usually evergreen and cone-bearing namely pine, spruce etc. etc. The leaves of these trees are shaped like needles.

Constellation. A group of fixed stars in the heavens, usually associated with an imaginary figure such as a bear or a lion. There are now recognised 28 northern, 12 zodiacal and 49 southern constellations, best known amongst them being the Great Bear, the Orion and Ursa Major.

Continental Climate. The extreme type of climate that prevails in the heart of the great continents. The winters are colder and summers hotter.

Continental Islands. The islands which stand on the continental shelf and have the same kind of rock, vegetation and animals as the mainland, are called continental islands.

Continental Shelf. The part of land adjacent to the continent which is submerged in shallow sea not more than 600 feet deep. The shallow seas are good breeding grounds for fish. Tides, useful for commerce, are also quite high in such seas.

Contours. Curves or lines of equal elevation or depression on a map. The coast line is the datum level from which all contour lines are measured. (See also page 120)

Convictional Rainfall. Convection is the form of heat transmission in liquids and gases. When liquid is heated in a container, the hotter part rises to the surface and its place is taken by cooler part. Similarly due to the heat in the equatorial region, evaporation is very great and the warm moist air rises upwards. Thus convection current is started. In the upper regions of the atmosphere, the vapours condense and fall down in the shape of rain. Such rains are called convection rains.

Coral Islands. Coral polyp, part plant part animal, consists of a jelly-like mass around a hard skeleton which remains after the softer part has worn away. This grows sometimes in such great masses as to form islands or reefs. Such islands are common in the Pacific Ocean, and in the Atlantic-- the Bahamas and Bermudas off Florida. (N.D.A., 1966)

Crop Rotation. The raising of different crops, one after the other, on the same land. This helps rational utilisation of all chemical properties of land. The roots and left-overs of the crops serve as green manure, and replenish the fertility of land.

Cyclone. A low-pressure storm area, almost circular, wind blowing spirally inward (clockwise in Southern Hemisphere and counter-clockwise in Northern Hemisphere). The wind rises up and in the low pressure of upper regions becomes cool. Water vapour is condensed and clouds are formed or rain falls. Thus the cyclones bring rains and change the weather to some extent. (I.A.S., 1965, 66)

Date Line. A north-south line through the Pacific Ocean approximating to the meridian 180° (west or east) where the date changes by exactly one day as it is crossed. Since the earth rotates west to east, a given clock time progresses westwards around the

world. By travelling around the world westwards we lose while eastwards we gain a day. This anomaly is solved by arbitrarily changing the day (and hence its date)—forward if going west, backward if going east—while crossing the (international) Date Line.

Deciduous Forests. The forests of the cool temperate region which have trees with broad leaves such as oak, elm, ash, beech, maple and birch and shrubs like the hazel, hawthorn and wild cherry.

Delta. In its lower part, just before it falls into the sea, the river becomes extremely slow and the mud and silt that are held in suspension sink at the bottom. This earth continues to pile up till it forces the river to divert its flow and fall into the sea by a number of small channels. The triangular land formation between the extreme channels is called Delta and resembles the Greek letter Δ . Deltas are formed at the mouth of only those rivers which fall in a tideless sea. The strong tides of the sea erode deltaic lands of the rivers. The mouths of such rivers are called estuaries.

Denudation. See page 126 under "Agents of Change".

Dew. Water formed by condensation of atmospheric water vapour as the air cools. Dew point is temperature at which condensation begins. (I.A.S., 1965)

Dog Star. Alternative name for Sirius, the brightest star in the heavens. Found in the constellation of Canis Major, it was regarded by the ancients as herald of hot seasons. Hence the term "Dog days".

Doldrums. Also known as Equatorial Belt of Calms, it is a belt of low pressure in the equatorial regions where the North Eastern and South Eastern Trade Winds meet. The belt is characterized by low pressure, high variable winds, squalls and thunder storms. (See also "Belts of Calm"). (I.M.A., 1960; I.A.S., 1962)

Dolomite. Magnesian limestone. It is composed of carbonate of lime and carbonate of magnesia in almost equal proportions. Brittle and lustrous, it is used in the production of steel and for building purposes.

Dry Farming. An agricultural system which produces crops in low rainfall areas, without irrigation. The system is aided by moisture conservation, drought-resistant strains, deep soil, crop rotation and fallowing.

Dunes. Sandhills formed on the seashore or in desert by the agency of the winds.

Earthquake. Trembling or shaking of earth's surface, commonly caused by earth faults, volcanic eruptions or a variety of other causes. Earthquakes cause immense damage to property and life. Serious damage was done by earthquakes in China and Italy (1933), in Quetta (1935), in Iran (1962), in Libya, Yugoslavia (1963), in Alaska (U.S.A.) (1964), Koyna (India) (1967), Iran (1968) and Peru (1970).

Eclipses. Partial or complete obscuring of one heavenly body by another. Lunar eclipse occurs when the earth comes between the sun and the moon and casts its shadow on moon. Solar eclipse is caused by moon passing between the sun and the earth. In this position moon and earth are close enough for moon's relatively short shadow to reach the earth.

Equator. Circle drawn round the earth equally distant from the poles. It cuts the earth's axis at right angle and it divides the globe in two equal halves, the Northern and Southern Hemispheres. Latitude is measured north and south of Equator, it being regarded as 0° of latitude. At the equinoxes the sun at noon is directly over the Equator.

Equinoxes. The dates 21 March and 23 September when day and night are of equal length over the entire earth. These dates are also named vernal equinox and autumnal equinox respectively. (*N.D.A., 1966*)

Erosion. Gradual wearing away or denudation of earth's surface by the action of wind, rain, the atmosphere, ice, river and sea. By these agents the forms of hills and valleys, cliffs and shores undergo modifications. Rivers deepen their channels and silt up their estuaries; the lakes become marshes or (eventually) dry valleys.

Estuary. Mouth of river, where river waters meet the sea.

Evaporation. Process by which a liquid passes into a state of vapour at temperature below boiling point. Evaporation is increased by application of heat and by lowering the pressure upon the liquid. After evaporation there is a cooling effect; for example the skin is cooled when liquid evaporates from it.

Fauna. The animal life of a given geographical region or geological period. (*I.A.S., 1955*)

Flora. The plant life of a given geographical region or geological period. (*I.A.S., 1955*)

Fog. Atmospheric condition of low-lying cloud or thick mist. When the temperature falls suddenly below dew point, a film of water is deposited on the dust particles, present in the air. This is called fog. If light, it is usually called mist. There are various kinds of fog, e.g., saturation fog, radiation fog, advection fog and upslope fog.

Fohn. Dry warm wind, experienced in the Eastern Alps, which blows down mountain valleys. Its warmth is due to pressure and consequent rise in temperature as it descends from a high altitude. The warm wind melts the snow and greatly helps agriculture.

Fold mountains. Due to squeezing of the cooling earth, the intense pressure caused the crust to crumple up. This made huge wrinkles or folds upon its surface on land as well as on the ocean floor. The Himalayas, Tien Shan, Andes, Alps and other ranges are fold mountains. These mountains also produce relief rains.

Fossils. Organic remains or impressions of plants or animals in the earth's crust where they have been embedded by geological agencies. Fossilization is usually confined to skeletons

or hard parts but entire mammals of the late Pleistocene have been found frozen in ice. Fossils are useful for studying the evolution of animal and plant life from the ages immemorial.

(*N.D.A.*, May, 1961 ; *I.M.A.*, 1966)

Frost. Deposition of small ice crystals on exposed objects on or near the ground at below freezing temperatures. Frequent occurrence of frost is harmful for plants and vegetation in general.

Geyser. Siliceous hot spring that intermittently erupts steam and hot water. They are found in volcanic areas in New Zealand, in the U.S.A. and in Iceland. The water is gradually heated in cavities and fissures in the rock and, under high pressure, dissolves large quantities of silica. When greatly heated, violent eruption of steam is produced.

(*S.C.R.A.*, 1967)

Glacier. Slowly moving ice mass formed from accumulated snow. The lower layers of the snow mass, accumulated in the snow-line regions, hardens up as ice under pressure of its own weight starts moving down slowly. Most of the world's perennial rivers have their sources in the glaciers.

(*N.D.A.*, 1966 ; *S.C.R.A.*, 1967)

Gorge. The narrow passage that a river cuts out through the hills by means of systematic erosion.

Granite. Well-known and useful igneous rock, distinguished from basalt, partly by larger crystals. The hot molten rock would cool slowly under pressure and form into large crystals. Granite is therefore the result of activity underground.

Greenwich Mean Time. The local time of the Greenwich Observatory (opened in 1676). The standard time of the British Isles is reckoned from this observatory which stands on the first meridian (zero meridian).

Gulf Stream. An enormous body of warm water—36 to 40 miles in width—the Gulf Stream emanates from the Gulf of Mexico and goes to Newfoundland after passing through American coasts. Helped by the westerly winds, it later reaches the coasts of the British Isles and Norway. It is mainly because of the warm effects of this stream that the coasts of Britain and Norway remain open throughout the year whereas other places in the same latitude remain ice bound for a greater part of the year.

(*I.N.*, 1948 ; *M.C.*, 1958 ; *I.M.A.*, 1960)

Hemispheres. The two equal divisions of earth made by Equator and known as Northern and Southern Hemispheres. The Northern Hemisphere has much more land mass than the Southern Hemisphere.

High Seas. Those parts of the sea which are beyond the territorial jurisdiction of any particular country.

Hinterland. The area behind a seaport.

Hoar Frost. See Frost.

Horizon. The circular line at which earth and sky appear to meet.

(*I.A.S.*, 1956)

Horizontal Equivalent. It is the horizontal distance between two successive contours.

Horse Latitudes. Two belts of calms between Trade Winds and prevailing Westerlies about latitude 30° or 35° North and South. (Also see under "Belts of Calms")

Horticulture. Scientific cultivation of fruit, vegetables, flowers and shrubs.

Hot Spring. Natural outflow of hot water from earth. Water percolates through sandstone to impermeable bed where it accumulates. Hot springs occur where water rises from a great depth or in volcanic areas.

Hurricane. Violent tropical storm originating in doldrums probably from convective heating and accompanied by sudden changes of wind. This is called typhoon in India and China.

(I.A.S., 1965)

Hydrosphere. It is the watery surface round the earth.

Ice Age. Period of intense cold, marked by the prevalence of great ice sheets and glaciers over the greater part of earth. There are indications that man was contemporary with the later part of the ice-age.

Iceberg. Mass of ice which has become detached from the ends of great glaciers in the Polar regions. They are a great danger to the ships. When the icebergs reach warm latitudes or come across with a warm current, they melt and deposit the boulders and pieces of rock which they had been carrying from the hills. Newfoundland's *Great Banks* were formed in this manner.

Igloo. Primitive type of dwelling built by the Eskimos for residence during winter. Dome-like in shape, it is made of frozen ice.

Igneous Rocks. These are the rocks which have been formed by the cooling of the hot masses of the earth. They are generally shapeless and are crystalline in structure. Granites, basalts and dolerites are the specimens of igneous rocks.

(I.N., 1966)

Isobars. Lines shown especially on weather maps connecting points where the atmospheric pressure is the same at a stated time. The isobars are used to define cyclonic or anticyclonic conditions.

(N.D.A., 1966)

Isobaths. Lines on the map running through parts of the ocean that have same depth.

Isobyyets. Lines on a chart running through places having the same amount of rainfall.

Isotherms. Lines drawn on a map passing through places where temperature of the air is the same at a stated time.

(I.A.A.S., 1956 ; M.C., 1958 ; N.D.A., 1966 ; I.M.A., 1966)

Isthmus. Narrow neck of land, connecting two larger land areas. It may also be the land by which a peninsula is united to the mainland. The Isthmus of Suez unites the continents of Asia and Africa.

Japan Current (or Kuro Siwo). A warm Pacific current that flows northwards to Japan and then eastwards to the coasts of North America. The current resembles the Gulf Stream in its course and effect.

Jupiter. The largest planet of the solar system with a mean diameter of 86,728 miles, eleven times that of the earth. It revolves round the sun in 11 years and 314.8 days at a mean distance of 483 million miles in an orbit between Mars and Saturn. Mean rotation period is 9 hours, 55 minutes. It has 12 satellites.

Kuro Siwo. See under "Japan Current".

Lagoon. An estuarine shallow (artificial lake at the mouth of a river) enclosed by dunes of river silt. A sheet of water within a coral atoll is also called a lagoon. (*I.M.A.*, 1966; *S.C.R.A.*, 1967)

Labrador Current. The Labrador and Greenland Currents are cold oceanic streams flowing southwards along the east coast of North America. These currents bring along huge icebergs that have, in the past, wrecked many steamers and ships between Europe and America.

Lake. Generally a large expanse of water occupying a depression in the land surface. The lakes may form in rock basins or be caused by various obstructions in a river valley. The Caspian Sea and Lake Superior are the two largest lakes in the world.

Latitude. Angular distance of a place north or south of the Equator. The Equator is regarded as 0° of latitude and parallels of latitudes are imaginary circles on the earth's surface parallel to the Equator. (See Fig. 11)

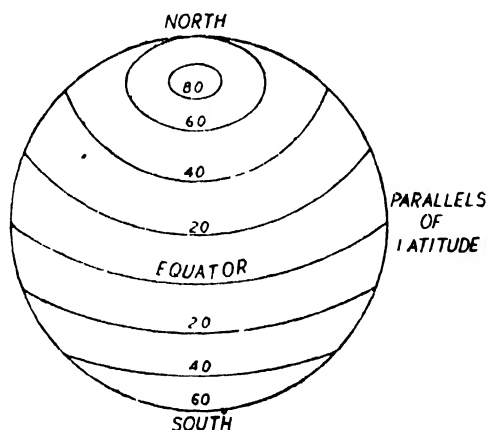


Fig. 11.

As this Figure shows, the globe is divided into parts north and south of the Equator (actually divided in 360 equal parts). The angle which one of these parts subtends at the centre of the circle is called a degree and the distance on the circumference of the circle measured in degrees is called angular distance or latitude. (*N.D.A.*, 1966)

Layer System. A system of mapping wherein various tints of colours are used to represent variations in heights above sea level and depths below sea level.

Leeward. Lee is a nautical term meaning the side away

from the one from which the wind blows, and, therefore, the sheltered side. In geography, it means that side of the hill where rainfall is scanty. The other side is the windward or weather side. Tibet lies on the leeward side of the Himalayas whereas the Indo-Gangetic plain lies on the windward side.

Light year. The distance that light travels in one year and which comes to about 6 million million miles (6,000,000,000,000 miles). Light travels at the speed of 1.86,000 miles per second. Light year is taken as a unit for measuring the distance of the stars from the earth and for other measurements of the universe. (*I.A.S., 1948 ; I.R.S.E., 1965*)

Llanos. Spanish word meaning "plains", and used in South America for the extensive grazing grounds, chiefly in Venezuela. These plains are covered with grass except in the dry season.

Local Time. It is the time at any place on earth calculated from the position of the sun at midday.

Longitude. Angular distance of the meridian of a place from some given meridian. The meridian of Greenwich Observatory is the usual one adopted. For geographical purposes, the earth's surface is divided into circles of longitude and distances in degrees are numbered east and west of the meridian of Greenwich. The lines of longitude are the lines on a map joining North and South Poles, cutting the Equator at right angles. (See Fig. 12).

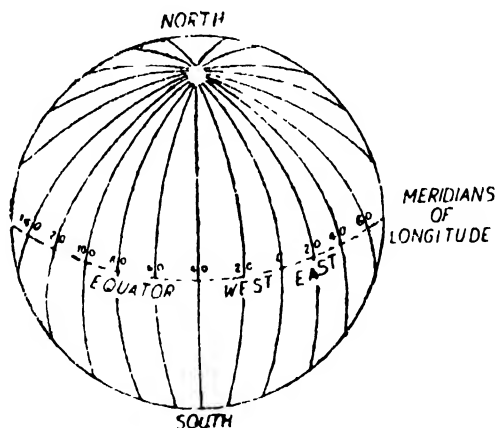


Fig. 12.

Lunar Eclipse. Partial or complete obscuring of moon by earth. It occurs when moon is in such a position that it is wholly or partly in earth's shadow—the phenomenon when earth comes between the sun and the moon. It is visible from all parts of the earth's surface where moon is above horizon. Maximum possible duration of a lunar eclipse is about 4 hours.

Magma. The molten material which exists below the solid rock of the earth's crust, and sometimes reveals itself on its emission from the volcano. It may also cool and solidify while forcing its way upwards.

Mars. First of the planets beyond the Earth's orbit. Mars is Earth's true brother. A comparatively small planet, it has a diameter of 4,200 miles and little more than one-tenth of Earth's mass. Its great brilliancy is due to its comparative closeness. About 35 million miles away from Earth, Mars' closest point is 140 times as distant as the Moon which is well beyond even the greatest telescopes to have a better view of it. But we know about Mars better than we do about Mercury and Venus.

Mars is at a mean distance of over 141 million miles from the sun and the year there is of 687 days. The day on Mars is of 24 hours and 37 minutes duration. Mars and Earth are, therefore, the only planets with rotation in the order of 24 hours. The axis of Mars is tilted at an angle of 25° as against our $23\frac{1}{2}^{\circ}$, so that conditions on Mars are almost similar to Earth's. According to a Russian scientist who has made experiments with plants by creating a Mars-like atmosphere, life can exist and sustain on Mars. Because Mars' orbit is more eccentric than ours, its Northern Hemisphere has a winter (160 days), a spring (199 days), a summer (182 days) and an autumn (146 days).

Mercury. Smallest of the planets, it is nearest to the sun, a distance of 36 million miles. It has a year of 88 solar days and its day (rotation) equals the year (revolution) in length, keeping same side always towards the sun. As a consequence, one sphere is perpetually scorched by the solar rays (condition of day) while perpetual night prevails in the other. The orbit of Mercury is eccentric and subject to varying perturbations technically known as elongations. Its diameter is 3100 miles and its density about three-fifths that of Earth. It has the extremist temperatures—about 700°F at perihelion at the centre of sunlit hemisphere and absolute zero, the coldest in the solar system, in the night side of the planet. The atmosphere on Mercury is extremely thin—almost non-existent—and it is clear that no form of life, plant or animal, exists there.

Meridian. Meridians are imaginary lines drawn on the earth's surface joining the North and South Poles and cutting the Equator at right angles. The whole earth has thus been divided into 360 meridians. According to the international agreement of 1884, the meridian that passes through Greenwich (called Greenwich Meridian) has been designated as *Zero Meridian* or *Prime Meridian*. Other meridians are measured East and West to 180° longitude.

Metamorphic Rocks. Rocks which were originally *igneous* or *sedimentary* rocks but have later been changed in character and appearance. The change in their original state may have been due to heat, pressure or action of water. Thus *granite* may turn into *gneiss*, *limestone* into *marble* and *shale* into *slate*.

Midnight Sun. Term applied to the conditions within the Arctic and Antarctic Circles of Earth where the sun is visible during the whole 24 hours at midsummer. Principally due to the obliquity of the earth's axis, the Pole which is inclined towards the

sun enjoys a six-month day while the opposite Pole remains in darkness for this period. (M.C., 1952)

Mineral Springs. Natural outflow of mineral water from earth. The rain water percolates through permeable beds to impermeable ones where it accumulates. Mineral Springs are formed by water dissolving mineral matter like sulphur. The pressure then forces it out of the earth's surface.

Mist. When warm moist air meets cold air or cold water, some of the water vapours condense on the dust particles in the air. Thus mist is same as fog with the difference that mist contains more moisture than fog. The mist (as also fog) spins a fine veil that reduces visibility and is a major obstacle and a hazard to aviation. (M.C. Nov., 1959)

Monsoons. Seasonal winds blowing from the Indian Ocean over South-Eastern and Eastern Asia bringing heavy rains.

Moraine. Rocky material carried along by the glaciers. A *lateral moraine* is formed by the material carried along the side of a glacier, *median moraine* when two glaciers meet and *terminal moraine* where a glacier ends.

Moon. A satellite of Earth, the Moon has a diameter of 2160 miles, a quarter of Earth's. It has 1/81 of Earth's mass. Moon revolves about Earth in an elliptical orbit at mean distance of 2·27 lakh miles. As moon's periods of rotation (day formation) on its axis and revolution (year formation) about the Sun are equal, same side of the moon is always towards the Earth and, due to librations (rocking movements) of Moon, only 60% of its surface comes into view in a month. The *Lunar day* or the *Lunar year* is equal to 27½ Earth days and to an observer on the Moon's surface the Sun would appear to remain above the horizon for a fortnight at a time.

Though our nearest neighbour in space, Moon is quite unlike Earth in its crust and atmosphere. Instead of Earth's oceans, forests, icefields and prairies, the Moon is dotted with dismal lofty mountains and circular depressions called craters. There is no air, no water, but profound silence. It is a huge grave.

Mountains, Block and Fold. See under *Block Mountains* and *Fold Mountains*.

Neap Tides. See page 130.

Nebula. A cloud-like mass, usually luminous. Within our galaxy exist planetary nebulae, each a central star with shell of gaseous material. Luminosity of these nebulae is attributed to reflection from, and radiation excited by, associated stars. Galaxies other than our own are also called nebulae.

Neck (Col or Saddle) of Mountain. See under *Col*.

Neolithic Period or Age. As a successor to the palaeolithic period of ruder workmanship, the neolithic age denotes the later phase of the prehistoric Stone Age, characterised by polished stone implements. During this phase, man took to agriculture and animal domestication, pottery, basketry and weaving. Neolithic conditions still persist among various backward people.

Neptune. Eighth planet in order from the Sun, Neptune was discovered in 1846 though its existence was known much earlier. With a diameter of 27,600 miles and a distance 2793 million miles from the Sun, it revolves round the Sun in $164\frac{1}{2}$ Earth years and rotates on its own axis in $15\frac{3}{4}$ hours (the duration of day). Thus a Neptunian year consists of over 90,000 Earth days. Neptune has atmosphere with a high surface gravity. A thing that weighs 14 kilograms on earth would weigh 20 kilograms on Neptune. It has a rocky core of 12,000 miles in diameter, the icy layer 6,000 miles thick and the outer gas 2,000 miles deep. It has two satellites, e.g., Triton and Nereid, discovered in 1846 and 1949 respectively.

North Pole. See page 122.

Oasis. A fertile area in a desert where water is freely available for man, beast and vegetation. In the sandy wild wastes, oases are the only places of regular human activity. (I.A.S., 1955)

Orbit. The path of celestial bodies, e.g., Earth etc. in their revolution round the Sun. The orbits of Earth as well as other planets are elliptical.

Pampas. The wide treeless grassy plains in South America, particularly in Argentina, Uruguay and Paraguay. They are suitable for cattle raising, agriculture and dairy farming, giving rise to industries like meat packing, milling and processing of dairy products.

Perihelion. Position of a planet in its orbit when it is at its nearest distance to the sun.

Planet. A heavenly body of the solar system, revolving round the sun in an elliptical orbit. There are nine of them namely, Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto.

Plateau. Tableland or elevated area of more or less level surface caused by earth movements, great lava flows and erosion of adjacent lands.

Pluto. Ninth major planet in order of distance from the Sun. Pluto revolves about the Sun at a mean distance of 3670 million miles in about 248 years—the length of a Plutonian year. Its rotation (round its own axis) completes in 6 Earth days and 9 hours. By 2113, when it reaches its aphelion (the distant most point from Sun) it will be 4500 million miles away from Sun. In another forty years, Pluto would be just spotted by the largest and strongest of our telescopes and the generations to come may not observe it at all. With a diameter of only 3600 miles, Pluto has very dense atmosphere and is a poor reflector of light. Pluto must by far be a dismal world from which even sun would appear as a tiny brilliant disk. It is the loneliest place in the Solar System, has no semblance of life and rightly marks the frontier of the Sun's kingdom.

Poles. See page 122.

Pole Star. A fixed star towards which remains pointed the North Pole of Earth.

Prairies. Level, grass-covered, treeless plains of Central and North America. With rich prairie soil, the area is most fertile and productive.

Precipitation. Total amount of rainfall, sleet or snow at a particular place.

Prime Meridian. See under "*Meridian*".

Radiation. Emission of energy by matter and its transfer through space. These radiations include light, heat, X-rays etc.

Rainbow. Coloured arch seen in the clear sky after the rains due to reflection and refraction of light in the raindrops that are suspended in the air. The raindrops, acting as spectrum, cause the breaking up of white light into the seven colours in varying degree of intensity.

Rain Gauge. Meteorological instrument for measuring rainfall.

Rain Shadow Regions. The leeward side of the mountain range which has scanty or no rainfall.

Reef. Ridge of rock or shingle or sand at or just above or below the surface of water.

Relief. Conditions of elevation, depression and other most important features of the landscape. Relief maps are the maps that show the surface relief by colouring, shading, hachures and contour lines. (Also see page 120.)

Relief Rains. Rains caused by the surface relief of land, e.g., mountain system. The Western Ghats have heavy rainfall on their windward slopes.

Revolution of Earth. Movement of Earth in its orbit round the Sun, completed in 365 $\frac{1}{4}$ days which is the duration of an Earth year.

Rift Valley. Sometimes a valley is caused when a part of land subsides leaving a long and narrow opening with steep edges. This opening is called a Rift valley. (Also see '*Block Mountains*').

Roaring Forties. See under *Westerlies*.

Saddle (Col or Neck). See under *Col*.

Saturn. A planet with the rings which make it unique in the Solar System. Sixth in order of distance from the Sun, it has an equatorial diameter of 75,000 miles. Its distance from the Sun is 886 million miles. It travels at a comparative crawl and takes 29 years to complete one revolution about the Sun. Its axial rotation is, however, rapid and completes in about 10 hours. Thus the Saturn year has some 25000 days! Saturn has at least nine satellites. Saturn is a quiet world with its cloud belts and its spots. There is absolutely no violent activity. Recently the most fascinating phenomenon of Saturn, its rings, has been explained to be consisting of thousands upon thousands of small solid particles—tiny moonlets—each turning round the planet in its own individual orbit. The ring system is unique and unrivalled not only in the Solar System but also in the whole universe. (I.M.A., 1966)

Savannas. Land covered with natural grass and found in tropical countries from 5° North and South of Equator to 23° North and South. (Also see page 132 under *Savannah Type*)

Sea level. The level of the ocean at mean tide taken as a standard for the measurement of altitudes of land.

Sedimentary Rocks. See under *Aqueous Rocks*.

(I.M.A., 1966)

Seismograph. An instrument that records the vibrations of the crust of earth and detects the occurrence, location and intensity of earthquakes.

Sidereal Day. It is the period of time during which the earth completes a rotation on its axis (in relation to the fixed stars) and which equals 23 hours, 56 minutes and 4 seconds. It is almost 4 minutes less than the mean Solar Day.

Simooms. Hot desert sandstorms of North Africa and Arabia similar to cyclones, moving from South to North and from East to West and carrying whirling columns of sand.

Sirocco. Hot, dry wind that blows from the South over the Northern shores of the Mediterranean. It has disastrous effect on fruit trees in bloom and vegetation in general. (I.N., 1948)

Snow-Line. Altitudinal line above which the areas remain perpetually snow-bound. This line varies with latitude, for example 15-20 thousand feet above sea level in Himalayas, 9000 feet in Alps and the sea level in polar regions. (I.R.S.E., 1965)

Solar Day. The time interval between two successive appearances of the Sun over the same meridian which comes to 24 hours. This time interval is in relation to the sun, which itself is in motion. Thus as the earth makes 1/365 of its revolution round the sun each day, the change of position due to one day's apparent annual motion of the sun equals the change of position to about 1/365 of 24 hours (or 4 minutes) of apparent daily motion. The Solar Day is, therefore, longer than the Sidereal day by about 4 minutes.

Solar Eclipse. The phenomenon when moon comes between the Sun and the Earth so that its shadow falls upon the earth. Total solar eclipse occurs once in 400 years.

Solar System. See page 122.

South Pole. See page 122.

Space. It is that part of the universe which lies between stars and planets. As for us, space begins where the atmospheric envelope round the earth ends. Space is not empty, instead matter (largely hydrogen) is scattered at the extremely low density of one atom per cubic centimetre in interstellar space and about ten particles per cubic centimetre in interplanetary space. It is subject to gravitational fields, electromagnetic radiation, cosmic rays and magnetic fields of unknown intensities.

Spot Heights. Indications in figures on a map regarding the height above sea level of different places. A line joining all points of equal height is called the contour line.

Spring. Natural outflow of water from ground or rock. Water percolates through a permeable bed such as sandstone or limestone until it reaches one that is impermeable. Here it accumulates till the pressure forces it out of surface.

Spring Tides. See under "*Tides*" on pages 129-130.

Stalactite and Stalagmite. A stalactite is an icicle-shaped mass of calcium carbonate hanging from the roof of a limestone cave, deposited by dripping ground water. A stalagmite forms under the stalactite, growing upward from cavern floor. If the two meet, a pillar is formed.

Standard time. Standardization of time over a given area. The world has been divided into 24 zones of 15 each representing an hour. Within each such zone, the time is uniform but it changes by one hour when the next zone is reached. The U.S.A. and Canada have five zones of Standard Time. The Indian Standard time is the local time of a place near Allahabad.

Steppe. Vast grass-covered plains of Siberia and the adjacent parts of Asia. They resemble the pampas of South America.

Stratified Rocks. Same as *Aqueous Rocks*.

Stratosphere. The upper layer of the atmosphere about 10 miles above the earth. This layer was first reached by Auguste Piccard in a balloon ascent in 1931. (*U.P.S.C. Asstt. Grade, 1947*)

Submarine Ridges. The buckling up of the earth's crust made huge wrinkles or folds upon the surface. Those on the land are called mountain ranges and those below the sea Submarine Ridges.

Sub-Tropic. Those belts of the North and South Temperate Zones which are near the Tropics and do not differ much in climate from the Torrid Zone. (See Figs. 5 and 6 on page 125).

Terai. Large tracts of forest land (the home of India's wild life) at the foot of Himalayas. Some of this land in U. P. has been deforested and brought under the plough.

Tides. Alternate rise and fall of the waters of oceans due to attraction of Sun and Moon, especially the latter's. The average interval between a rise and fall is 12 hrs. 25 min. Tides are highest when earth, sun and moon are in line (Spring Tides) and lowest when sun and moon are at right angles (Neap Tides). Tidal ebb and flow cause tidal currents (See pages 129-130) (*L.I.C., 1965*)

Tornado. Violent storm especially in West Africa at the beginning and the end of rainy season and in the U.S.A from April to July, having usually a rotary motion. It is often accompanied by funnel-shaped cloud.

Trade Winds. The regular wind that blow from N.E. in the Northern Hemisphere and from S.E. in the Southern Hemisphere, to the Equator. They blow between 35° N and 9° N and 30° S and 1° S.

Tributary. A stream or a small river that falls into another and swells it.

Tropics. The parts of earth lying between the Equator and 23½° N, bounded by Tropic of Cancer in the Northern Hemisphere and between the Equator and 23½° S, bounded by Tropic of Capri-

corn in the Southern Hemisphere. These areas are the hottest part of earth and are generally named as Torrid Zone. (Figs. 5 and 6 on page 125).

• **Tundra.** Treeless, bald, cold desert area of Northern Russia and Siberia, lying round the shores of Arctic Ocean. (*I.M.A.* 1966)

Twilight. Light from the sky when sun is below the horizon in the morning or (usually) in the evening.

Typhoon. Violent hurricane in the China seas occurring especially from July to October.

Uranus. A planet in the Solar System, seventh in distance from the sun. It has a diameter of 32,000 miles and is flattened at the Poles. It revolves round the sun in 84 years at the mean distance of 1782 million miles. Its rotation period is 10 hours and 45 minutes. Uranus has five satellites. The planet was discovered in 1781.

Veldt. Grassy undulating plateaus of South Africa and Southern Rhodesia. These are useful for stock-raising in the lower altitudes.

Venus. A planet of the Solar System, second in distance from the sun. It revolves about the sun in 225 days at a mean distance of 67 million miles. Rotation period is not known as the planet is enveloped by layers of clouds or vapour. A brilliant star in the sky in the morning, or in the evening, it has no satellite. U.S. space vehicle Mariner II had passed within 21,000 miles of Venus. A Russian spacecraft* soft-landed on Venus on 18th October, 1967.

Volcano. An opening in the crust of the earth, through which super-heated matter is expelled, forming a hill with a cup-like basin at the top called the crater. The chief volcanic centres are Italy, Sicily, the Southern Andes, Dutch East Indies and Japan. It has been proved that the interior of earth is extremely hot. The molten interior rocks begin to move and sometimes molten matter (lava, red hot ashes) is formed up the hole to the surface and is piled around the holes. (See Fig. 13).

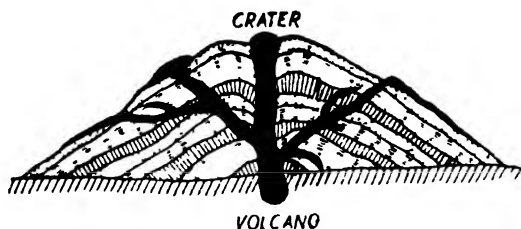


Fig. 13.

* The latest data available indicate that the content of oxygen and water vapour of the atmosphere there is about 1.5 percent. It is a probability that some form of life, for instance atmospheric plankton, and some other flying and soaring organisms may be found to exist on Venus.

Watershed. Ridge of land separating the head-waters of two different river systems. Rocky mountains and Andes form watershed between westward-flowing and eastward-flowing streams. This term is also used synonymously with drainage basin.

Weathering. See under *Agents of Change on Earth* on p. 125

Westerlies. (Brave West Winds or Roaring Forties). The constant winds which blow from the South-West in the Northern Hemisphere and from the North-West in the Southern Hemisphere towards the Poles. They blow generally from 30° to 60° North and South of the Equator. As in the Southern Hemisphere there is not much land between 40° and 50° latitudes, Westerlies blow with such violent strength that they are called *Roaring Forties* or *Brave West Winds*.

Zenith. Point of heavens directly above our head.

SHIPPING CANALS

Kiel. Also known as Kaiser Wilhelm Canal, it has been cut through the peninsula of Jutland and connects the North Sea and the Baltic. Begun in 1887 and finished in 1895, it was deepened during 1909-14 to take the largest vessels. Opened in 1895, it is 61 miles long with a depth of 45 feet. This canal shortens the distance between London and the Baltic ports by about 250 miles. Germany, which is cut off from the main sea, depends for navigation on this canal. Kiel is at one end of the canal and Brunsbüttel, on the Elbe, at the other.

Panama. This canal was constructed as a result of the Treaty of 1903 between the United States of America and Panama. The Treaty grants to USA the use and control of a five-mile zone on each side of the canal route. The canal is above sea level and is provided with locks. It is about 40 miles long from deep water in the Caribbean to deep water in the Pacific. Its width is between 300 and 1000 feet and the minimum depth 41 feet. It was formally opened in 1920 though it had been in actual use since 1914. It is an international canal and provides navigational passage under equal terms to vessels of all countries.

It has linked the Atlantic and Pacific Oceans with Colon and Panama (ports) on the coastal ends respectively. It has considerably shortened distances between London and San Francisco, New York and San Francisco and New York and Japan. Of late, there has been a controversy between the United States of America and Panama over the use of canal and the administration of the canal zone. There are also proposals to build an alternative canal.

Suez Canal. It is a waterway of the United Arab Republic (formerly Egypt) extending from Port Said to Port Tewfik, connecting the Mediterranean Sea and the Red Sea. It has shortened the distance between Southampton and Bombay by about 4,000 miles. It is 107 miles long, about 200 feet wide with a depth of 42·5 feet. It was constructed in 1869 by French engineer, Ferdinand de Lesseps and was administered by a British-owned company until 1956, when U.A.R. nationalised it.

WONDERS OF THE WORLD

Wonders of the Ancient World. (1) Hanging Gardens of Babylon. (2) Temple of Diana at Ephesus. Diana, a Roman Divinity identified with Greek Artemis, was regarded goddess of moon, forests, animals and women in childbirth. This temple was built to worship her. (3) Statue of Jupiter at Olympia (Greece). Also called Jove, Jupiter was the chief God in Roman religion. (4) Mausoleum of Mousolus (King of Caria in 353 B.C.). (5) Pyramids of Egypt. (6) Lighthouse at Alexandria. (7) Colossus of Rhodes. (Large bronze statue of the Sun God, Helios, in Rhodes harbour. Built by Chares in 292-280 B.C., it fell in an earthquake in 224 B.C.)

Wonders of the Medieval Age. (1) Colosseum of Rome. (2) The Great Wall of China. (3) Porcelain Tower of Nanking. (4) Stonehenge of England. (5) Mosque at St. Sophia (Constantinople). (6) Catacombs of Alexandria (7) Leaning Tower of Pisa. (8) Taj Mahal at Agra (17th Century) (9) The Temple of Amon (Amen-Ra) at Karnak on the Nile river. (10) The Circus Maximus.

Wonders of the Modern World. Atom bomb, Hydrogen bomb, Manned space travel, Radio, Television, Telegraphy, Telephone, X-ray etc., etc.

Some countries whose names have been changed

| <i>Old Name</i> | <i>New Name</i> | <i>Old Name</i> | <i>New Name</i> |
|-------------------------|----------------------|-------------------------|------------------|
| Abyssinia | Ethiopia | Madagascar | Malagassy |
| Basutoland | Lesotho | | |
| Bechuanaland | Botswana | Malaya | Malaysia |
| British North Borneo | Sabah | Manchukuo | Manchuria |
| | | Mesopotamia | Iraq |
| Dutch East Indies | Indonesia | Northern Rhodesia | Zambia |
| Egypt | United Arab Republic | Nyasaland | Malawi |
| | | Persia | Iran |
| Eire (Irish Free State) | Ireland | Sandwich Islands | Hawaiian Islands |
| Formosa | Taiwan | | |
| Gold Coast | Ghana | Siam | Thailand |
| Holland | Netherlands | Zanzibar and Tanganyika | Tanzania |
| India | India (Bharat) | | |

Some cities whose names have been changed

| <i>Old Name</i> | <i>New Name</i> | <i>Old Name</i> | <i>New Name</i> |
|-----------------|-----------------|-----------------|-----------------|
| Angora | Ankara | Leopoldville | Kinshasa |
| Banaras | Varanasi | Peiping | Peking |
| Batavia | Jakarta | Petrograd | Leningrad |
| Cape Canaveral | Cape Kennedy | Stalinabad | Dyushambe |
| | | Stalingrad | Volgograd |
| Calicut | Kozhikode | Stanleyville | Kisangani |
| Christiana | Oslo | Vizagapatam | Vishakhapatnam |
| Constantinople | Istanbul | | |

Important Towns on Rivers

| <i>Town</i> | <i>Country</i> | <i>River</i> |
|-------------|----------------|----------------------------|
| Agra | India (U.P.) | Yamuna (N.D.A., May, 1966) |
| Akyab | Burma | Irrawady |

| <i>Town</i> | <i>Country</i> | <i>River</i> |
|--------------|---------------------|-----------------------------|
| Allahabad | India (U.P.) | Ganges |
| Ankara | Turkey | Kizil |
| Badrinath | U.P. (India) | Gangotri (I.A.S. 1967) |
| Baghbad | Iraq | Tigris |
| Bangkok | Thailand | Menam |
| Basra | Iraq | Tigris and Euphrates |
| Belgrade | Yugoslavia | Danube |
| Berlin | Germany | Spree |
| Bristol | England | Avon |
| Budapest | Hungary | Danube |
| Cairo | U.A.R. | Nile |
| Calcutta | India (W. Bengal) | Hooghly |
| Canton | China | Si-Kiang |
| Chittagong | Pakistan | Maiyani |
| Chungking | China | Yang-tse-Kiang |
| Cologne | Germany | Rhine |
| Cuttack | India (Orissa) | Mahanadi (N.D.A. May, 1966) |
| Danzig | Germany | Vistula |
| Delhi | India | Yamuna |
| Dibrugarh | India (Assam) | Brahmaputra (Stenos, 1969) |
| Dresden | Germany | Elbe |
| Dundee | Scotland | Tay |
| Ferozepur | India (Punjab) | Sutlej (N.D.A. May, 1966) |
| Glasgow | England | Clyde |
| Hall | England | Hul |
| Hamburg | Germany | Elbe |
| Hardwar | India (U.P.) | Ganges (N.D.A. May, 1966) |
| Jabalpur | India (M.P.) | Narmada |
| Jamshedpur | India (Bihar) | Subarnarekha |
| Kabul | Afghanistan | Kabul |
| Kanpur | India (U.P.) | Ganges |
| Karachi | Pakistan | Indus |
| Khartoum | Sudan | Blue and White Nile |
| Lahore | Pakistan | Ravi |
| Leh | India (J. & K.) | Indus (I.A.S., 1967) |
| Lisbon | Portugal | Tagus |
| Liverpool | England | Mersey |
| London | England | Thames |
| Lucknow | India (U.P.) | Gomti (N.D.A., May, 1966) |
| Ludhiana | India (Punjab) | Sutlej |
| Montreal | Canada | St. Lawrence |
| Moulmein | Burma | Salween |
| Nanking | China | Yang-tse-Kiang |
| Nasik | India (Maharashtra) | Godavari (I.A.S., 1967) |
| Newcastle | England | Tyne |
| New Orleans | U.S.A. | Mississippi |
| New York | U.S.A. | Hudson |
| Ottawa | Canada | Ottawa |
| Paris | France | Seine |
| Patna | India (Bihar) | Ganges |
| Philadelphia | U.S.A. | Delaware |

| <i>Town</i> | <i>Country</i> | <i>River</i> |
|-------------|-----------------|----------------|
| Quebec | Canada | St. Lawrence |
| Rangoon | Burma | Irrawady |
| Rome | Italy | Tiber |
| Shanghai | China | Yang-tse-Kiang |
| Srinagar | India (J. & K.) | Jhelum |
| Surat | India (Gujarat) | Tapti |
| Varanasi | India (U.P.) | Ganges |
| Vienna | Austria | Danube |
| Vijayawada | India (Andhra) | Krishna |
| Warsaw | Poland | Vistula |
| Washington | U.S.A. | Potomac |

COUNTRIES AND THEIR CAPITALS

| <i>Country</i> | <i>Capital</i> | <i>Country</i> | <i>Capital</i> |
|---------------------------|----------------|----------------|----------------|
| Afghanistan | Kabul | France | Paris |
| Albania | Tirana | Gabon | Libreville |
| Algeria | Algiers | Germany (E) | East Berlin |
| Argentina | Buenos Aires | Germany (W) | Bonn |
| Australia | Canberra | Ghana | Accra |
| Austria | Vienna | Greece | Athens |
| Belgium | Brussels | Guatemala | Guatemala City |
| Brazil | Brasilia | Guinea | Conakry |
| Bulgaria | Sofia | Guyana | Georgetown |
| Burma | Rangoon | Haiti | Port-Au-Prince |
| Burundi | Bujumbura | Hungary | Budapest |
| Cambodia | Phnom Penh | Iceland | Reykjavik |
| Cameroon | Yaounde | India | New Delhi |
| Canada | Ottawa | Indonesia | Jakarta |
| Central African Republic | Bangui | Iran | Teheran |
| Ceylon | Colombo | Iraq | Baghdad |
| Chad | Fort Lamy | Ireland | Dublin |
| Chile | Santiago | Israel | Jerusalem |
| China (People's Republic) | Peking | Italy | Rome |
| China (Nationalist) | Taipeh | Ivory Coast | Abidjan |
| Colombia | Bogota | Jamaica | Kingston |
| Congo (ex-Belgian) | Leopoldville | Japan | Tokyo |
| Congo (ex-French) | Brazzaville | Jordan | Amman |
| Costa Rica | San Jose | Kenya | Nairobi |
| Cuba | Havana | Korea (North) | Pyongyang |
| Cyprus | Nicosia | Korea (South) | Seoul |
| Czechoslovakia | Prague | Kuwait | Kuwait |
| Dahomey | Porto Novo | Laos | Vientiane |
| Denmark | Copenhagen | Lebanon | Beirut |
| Dominican Republic | San Domingo | Liberia | Monrovia |
| Ecuador | Quito | Libya | Tripoli |
| El Salvador | San Salvador | Luxembourg | Luxembourg |
| Ethiopia | Addis Ababa | Malagassy | Tananarive |
| Finland | Helsinki | Malawi | Zomba |
| | | Malaysia | Kuala Lumpur |
| | | Mali | Bamako |
| | | Malta | Valetta |

| <i>Country</i> | <i>Capital</i> | <i>Country</i> | <i>Capital</i> |
|------------------|----------------|---------------------|----------------|
| Mauritania | Naukachott | Spain | Madrid |
| Mauritius | Port Louis | Sudan | Khartoum |
| Mexico | Mexico City | Swaziland | Mbabne |
| Mongolia | Ulan Bator | Sweden | Stockholm |
| Morocco | Rabat | Switzerland | Berne |
| Nepal | Kathmandu | Syria | Damascus |
| Netherlands | Amsterdam | Tanzania | Dar-es-Salaam |
| New Zealand | Wellington | Thailand | Bangkok |
| Niger | Niamey | Togo | Lome |
| Nigeria | Lagos | Trinidad and Tobago | Port of Spain |
| Norway | Oslo | Tunisia | Tunis |
| Pakistan | Islamabad | Turkey | Ankara |
| Panama | Panama City | Uganda | Kampala |
| Peru | Lima | U.A.R. | Cairo |
| Philippines | Quezon | U.K. | London |
| Poland | Warsaw | Upper Volta | Ouagadougou |
| Portugal | Lisbon | Uruguay | Montevideo |
| Rhodesia (South) | Salisbury | U.S.A. | Washington |
| Ruanda | Kigali | U.S.S.R. | Moscow |
| Rumania | Bucharest | Vatican City | Vatican City |
| Saudi Arabia | Riyadh | Venezuela | Caracas |
| Senegal | Dakar | Vietnam(N) | Hanoi |
| Sierra Leone | Freetown | Vietnam (S) | Saigon |
| Sikkim | Gangtok | Yemen | Sanna |
| Singapore | Singapore | Yugoslavia | Belgrade |
| Somalia | Mogadishu | Zambia | Lusaka |
| South Africa | Capetown | | |

CURRENCIES OF DIFFERENT COUNTRIES

| <i>Country</i> | <i>Coin</i> | <i>Country</i> | <i>Coin</i> |
|----------------|----------------|----------------|-----------------|
| Afghanistan | Afghani | Ethiopia | Dollar |
| Argentina | Peso | Finland | Mark |
| Australia | Dollar | France | Franc |
| Austria | Schilling | Germany | Mark |
| Belgium | Franc | Greece | Drachma |
| Britain | Pound | Guatemala | Quetzal |
| Bulgaria | Leva | Haiti | Gourde |
| Burma | Kyat | Iceland | Kroner |
| Canada | Dollar | India | Rupee |
| Ceylon | Rupee | Indonesia | Rupiah |
| Chile | Peso | Iran | Rial, Dinar |
| China | | Iraq | Dinar |
| (Communist) | Yuan | Israel | Pound (Israeli) |
| China | | | |
| (Nationalist) | Chinese Dollar | Italy | Lira |
| Columbia | Peso | Japan | Yen |
| Costa Rica | Colon | Korea (South) | Won |
| Cuba | Peso | Luxembourg | Franc |
| Czechoslovakia | Crown | Malaysia | Dollar |
| Denmark | Krone | Mexico | Peso |
| El Salvador | Colon | Netherlands | Guilder |

| <i>Country</i> | <i>Coin</i> | <i>Country</i> | <i>Coin</i> |
|----------------|-------------|----------------|-------------|
| Norway | Krone | Sweden | Krona |
| Pakistan | Rupee | Switzerland | Franc |
| Peru | Sol | Thailand | Baht |
| Philippines | Peso | Turkey | Lira |
| Poland | Zloty | U.A.R. | Pound |
| Portugal | Escudo | U.S.A. | Dollar |
| Rumania | Leva | U.S.S.R. | Rouble |
| Salvador | Colon | Uruguay | Peso |
| South Africa | Rand | Vietnam | Piastre |
| Spain | Peseta | Yugoslavia | Dinar |

COUNTRIES ASSOCIATED WITH INDUSTRIES

| | |
|-------------------|--|
| Afghanistan | Dry fruits, wool, carpets. |
| Australia | Wool, meat, dairy products, wheat, gold. |
| Austria | Leather goods, machinery. |
| Belgium | Textiles, glass. |
| Brazil | Coffee. |
| Canada | Wheat, machinery, newsprint. |
| Chile | Copper nitrate. |
| China (Communist) | Silk, tea, rice, iron and steel. |
| Congo | Copper, diamonds, uranium, cobalt. |
| Cuba | Sugar, tobacco. |
| Denmark | Dairy products. |
| England | Machinery, textiles, medicines, cars. |
| Finland | Textiles, paper, timber and timber products. |
| France | Textiles, wine, silk. |
| Germany (West) | Machinery, steel goods, chemicals, precision goods such as cameras, lenses, etc. |
| Ghana | Gold, coffee, manganese. |
| Netherlands | Aircraft, machinery, electrical goods. |
| India | Tea, textiles, wheat, sugar, leather and leather goods, tobacco, cement, light engineering goods, manganese and handicrafts. |
| Indonesia | Rice, rubber, spices, sugar, oil, cinchona. |
| Iran | Petroleum, dry fruits, carpets and other wool goods. |
| Iraq | Oil, dates. |
| Italy | Motors, light engineering goods, textiles. |
| Japan | Textiles, heavy and light engineering goods, electrical goods, toys, silk, hosiery and precision goods. |
| Kuwait | Oil. |
| Malaysia | Rubber, tin. |
| Mexico | Oil, silver. |
| Pakistan | Raw jute, rock salt and leather goods. |

| | |
|---------------------|---|
| Russia | Petroleum, wheat, heavy machinery, chemicals, iron and steel. |
| Saudi Arabia | Oil and dates. |
| South Africa | Gold and diamonds. |
| Spain | Lead. |
| Sweden | Matches and timber. |
| Switzerland | Watches, light engineering goods and chemicals. |
| Taiwan (Formosa) | |
| (Nationalist China) | Camphor. |
| U.S.A. | Oil, machinery, chemicals, motor cars, coal, wheat, iron and steel. |
| Vietnam | Tin, cinchona, rubber, rice and teak. |
| West Indies | Sugar, tobacco. |

TOWNS AND THEIR CHIEF INDUSTRIES

| | |
|--------------------------|--|
| Agra (U.P., India) | Leather goods, stoneware, marble work. |
| Ahmedabad (Gujarat) | Textiles. |
| Aligarh (U.P.) | Locks, cutlery, dairy products. |
| Alwaye (Kerala) | Fertilizers. |
| Amritsar (Punjab) | Cotton and woollen textiles, carpets, shawls and silk manufacture. |
| Baku (U.S.S.R.) | Oil. |
| Banaras | See under Varanasi. |
| Bangalore (Mysore) | Aircraft and telephone industries, scientific research. |
| Bangkok (Thailand) | Rice mills, oil refineries, saw mills and rubber goods. |
| Bareilly (U.P.) | Match factory, bamboo wood work. |
| Bhagalpur (Bihar) | Seat of University, silk. |
| Bhilai (M.P.) | Steel production. |
| Bombay | Cotton and woollen textiles, chemicals, leather and metal industries. |
| Buenos Aires (Argentina) | Dairy products, meat, financial and industrial centre of Argentina. |
| Cadiz (Spain) | Cork. |
| Calcutta | Jute, paper, engineering goods, potteries, iron and steel. |
| Calicut (India) | Calico industry. |
| Chicago (U.S.A.) | Meat industry, foodgrains and livestock, iron and steel, heavy engineering industry. |
| Chittaranjan (India) | Locomotives. |
| Churk (U.P.) | Cement industry (I.A.S., 1959) |
| Cologne (Germany) | Metallurgy, chemicals and textiles manufacturing, Eau de Cologne. |
| Dacca (East Pakistan) | Jute. (The old fine muslin industry is now almost extinct.) |
| Dalmianagar (India) | Cement. |
| Darjeeling (India) | Tea. |

Delhi

Textiles, chemicals, ivory work, sewing machines, plastic goods, housing and D.D.T. factories, manufacture of light engineering goods.

Detroit (U.S.A.)

Motor cars.

Dhariwal (Punjab)

Woollen textiles.

Dum Dum (Bengal)

Ammunition.

Essen (Germany)

Krupp Steel Works, coal mining

Ferozabad, (U.P.)

Glass bangles.

(*Asstt. Grade, May, 1959*)

Ghatsila (Bihar)

Copper ore mining.

Guntur (Andhra)

Tobacco.

Havana (Cuba)

Sugar, tobacco, cigars

Hollywood (U.S.A.)

Film industry.

Jamshedpur (Bihar)

Iron and steel works, locomotives.

Jharia

Coal mining.

Jullundur (Punjab)

Surgical and sports goods.

Jaipur (Rajasthan)

Jewellery, enamel and muslins, stoneware, ivory work, cloth printing.

Johannesburg (W. Africa)

Gold mining.

Kalimpong (India)

Wool trade.

Kanpur (U.P.)

Leather industry aircraft manufacture, soap, iron, sugar and cotton mills.

Katni (M.P.)

Cement lime.

Kimberley (S. Africa)

Diamond mining.

Kodarma (India)

Mica mining.

Kolar (Mysore)

Gold mining.

Los Angeles (U.S.A.)

Film production, oil mines.

Lucknow (U.P.)

Gold silver, lac and embroidery work.

Ludhiana (Punjab)

Hosiery, cycles, sewing machines, oil engines and engineering goods.

Lyons (France)

Silk and rayon industries.

Madras

Cotton textiles, leather, cigarette and iron factories.

Madurai (Madras)

Cotton and silk weaving.

Mauritius (an island in the Indian Ocean)

Sugar.

Milan (Italy)

Textiles, machinery, chemicals, leading silk market of Europe.

Mirzapur (U.P.)

Carpets, pottery, stoneware, and brass industries.

(*Marine Engg., 1962*)

Moradabad (U.P.)

Brassware, cutlery, enamel industry.

Multan (W. Pakistan)

Steel goods, pottery, dates.

Mysore (India)

Silk, ivory, ebony work, sandalwood oil, sandalwood work.

Nagpur (Bombay)

Oranges, cotton textiles.

Nangal (Punjab)

Fertilizers.

Nepanagar (M.P.)

Newsprint factory.

Panna (M.P.)

Diamond mining.

| | |
|-------------------------|---|
| Pittsburg (U.S.A.) | Oil, coal, iron and steel. |
| Raniganj (W. Bengal) | Coal mining. |
| Rudrasagar (Assam) | Oil extraction. |
| Saharanpur (U.P.) | Cigarette and paper mills, mangoes. |
| Sholapur (Maharashtra) | Textiles. |
| Sialkot (W. Pakistan) | Sports goods. |
| Sindri (Bihar) | Fertilizers and chemicals. |
| Srinagar (J and K) | Silk, woollen shawls and carpets, woodwork, embroidery and papier machie. |
| Surat (Gujarat) | Silk and cotton textiles. |
| Surajpur (Haryana) | Cement. |
| Sylhet (E. Pakistan) | Tea. |
| Tarapore (Maharashtra) | Atomic power plant. |
| Titagarh (W. Bengal) | Paper and jute. |
| Trivandrum (Kerala) | Wood carving, coir matting. |
| Trombay (Bombay) | Atomic reactor, atomic research laboratory, oil refineries. |
| Varanasi | Silk and brocade, brass-ware, wooden toys. |
| Venice (Italy) | Glass manufacture. |
| Vishakhapatnam (Andhra) | Oil refinery, ship-building. |
| Yenangyaung (Burma) | Petroleum. |

IMPORTANT WORLD TOWNS AND PLACES

Abadan. Iranian city in the delta of the Shatt-el-Arab at the head of Persian Gulf. It has a huge oil refinery.

Abu, Mount. A health resort in Rajasthan, it is famous for the Dilwara Jain Temple. The Central Police Training School is also located here.

Addis Ababa. Capital city of Ethiopia. Famous Imperial Palace is located here.

Adyar. A suburb of Madras and headquarters of the Theosophical Society of India. (*S.C.R.A., June, 1963*)

Agra. Situated on the right bank of the Yamuna, 120 miles away from Delhi, it was founded by Akbar in 1566. It remained capital of Mughal Empire for about a century. A great commercial and manufacturing centre of leather goods, marble and soapstone toys, Agra is mainly famous for the Taj, the Fort and Pearl Mosque. It is also the seat of a University. (*Sec. Off. 1963; I.T. Insp., 1966*)

Ahmedabad. Capital of Gujarat. A great textiles manufacturing centre.

Ajmer. Famous city of Rajasthan. A great pilgrimage centre for the Muslims because of the tomb of Khwaja Muin-ud-din Chishti.

Alaska. Admitted in 1959 as the 49th State of America. It is the largest US State, purchased by the USA in 1867 from Russia. Fishing, mining, lumbering and pulp-milling are the chief industries. During World War II, Alaska emerged as a strategic area of great importance. It is the seat of one of America's most important bases.

Alexandria. U.A.R.'s major Mediterranean port, founded by Alexander the Great in 322 B.C. It was a great centre of Hellenistic and Jewish culture in ancient times. At present, it handles most of U.A.R.'s foreign trade.

Aligarh. An important town of U.P., seat of the Muslim University and a flourishing manufacturing centre of locks, knives etc.

Allahabad. A great Hindu pilgrimage centre in U.P., seat of the University and confluence of Ganges, Yamuna and Saraswati.

Alwaye (Kerala). It is chiefly known for the location of a fertilizers factory there.

Amarnath Cave. A famous place of Hindu pilgrimage in Kashmir. It lies about 33 miles away from Pahelgaum. A great pilgrimage is held there on the Rakshabandan day when Hindus from all over India pay homage to the Linga installed there. On the way to the Cave, there are some most enchanting valleys, unrivalled in their scenic beauty.

Ambala. A District headquarters of the newly created Haryana State. An important cantonment and a railway junction, it has glass and chemical manufacturing industries.

Amritsar. Seat of the Golden Temple and a great pilgrimage centre for the Sikhs. The city was founded by Guru Ram Das, the fourth Guru of the Sikhs. It is a great manufacturing centre of cotton and woollen textiles, silk goods and carpets. The famous Jallianwala Bagh, the scene of brutal massacre in 1919, is located in the heart of the city. A memorial "Flame of Liberty" was created here in 1961 to remember the patriots who attained martyrdom in the Jallianwala tragedy.

Amsterdam. Largest city and capital of Netherlands, it is a great commercial and intellectual centre. It has diamond cutting industry.

Ankleshwar. A place in Gujarat where oil has been struck. This place is south of Cambay-Lunej oilfields.

(Roorkee Engg., 1966)

Athens. Capital of Greece. It is a cultural, religious and industrial centre of the country.

Badrinath. A famous Hindu pilgrimage centre in the Himalayas in U.P. Situated near the Gangotri glacier, it remains snow-bound for about 8 months in the year.

Baku. Seat of major oilfields of Russia. Situated on the Caspian Sea, it is the capital of Azerbaijan Republic of the USSR.

Bali. Culturally and economically, the most important island of Indonesia. Copra, rice, coffee and teak wood are the chief produce. Hindu influence has been most dominant here since 7th century. Bali dance forms have close resemblance to Indian classical dancing.

Banaras. (Varanasi). An important pilgrimage centre for the Hindus, seat of the Hindu University and a great commercial centre of silk and brocade, toys and brassware.

Bangalore. Seat of the aircraft industry, telephone factory, Bharat Electronics and Hindustan Machine Tools. Famous for silk manufacture, it is the Capital of Mysore State.

(*N.D.A., May, 1966*)

Bangkok. Capital of Thailand. Situated on Menam river, near Gulf of Siam, it is an industrial centre and chief port of Thailand. It has rice mills, oil refineries and saw mills.

Bara Hoti. A part of Garhwal District in U.P. on which the Chinese are laying their claim. The claim has on various occasions been refuted by the Government of India.

Barauni. In Bihar, where a refinery has been established by the Indian Refineries Ltd. in collaboration with the USSR Government. The first unit was formally inaugurated in January, 1965 and the second unit went into operation in August, 1966.

(*J.T. Insp., 1966*)

Bastille. A state prison and a fortress in Paris. It was stormed and destroyed by the Parisians on 14 July, 1789 which heralded the French Revolution.

Belur. Near Calcutta in West Bengal and famous for the Math founded by Swami Vivekananda.

Bendigo. City of Victoria, Australia. It lies in the centre of the gold mining district.

Berlin. The former capital of united Germany and now the Capital of East Germany. After occupation in 1945, it was divided into West Berlin and the East Berlin sector. It has been the bone of contention between the two Germanys as well as the Western and Communist blocs. East Berlin constructed the 40-mile long wall along the border to prevent large scale migration of the East Berliners to the Western Sector.

Berubari. A West Bengal enclave in East Bengal which India agreed to hand over to Pakistan in accordance with the Nehru-Noon agreement of 1958. The transfer will affect about 6000 people who, it is feared, will be displaced. This fact created uneasiness in West Bengal. The Constitution has already been amended to affect the transfer.

Bethlehem. Birthplace of Jesus Christ. Situated in Jordan.

Bhilai. In Madhya Pradesh, seat of Russian-aided steel plant.

Bhopal. Capital of Madhya Pradesh. Seat of an engineering college and Heavy Electricals Ltd, it is also a trade and cotton textiles manufacturing centre.

Bhubaneswar. Capital of Orissa, it is famous for the Lingaraja Temple.

Bijapur. A town in Mysore State. World's highest dome—the Gol Gumbaz—is situated in this old city.

Bikini. Uninhabited atoll comprising 36 islets in the Central Pacific. U.S. atomic bomb tests were held here in 1946.

Birmingham. Second largest English city and a great manufacturing centre; it lies in the vicinity of iron and coal mining district and is noted for metal manufacturing.

Bombay. Capital of Maharashtra and a leading commercial and industrial area. A major port and manufacturing centre, it is the seat of cotton textile industry, oil refinery and atomic reactor. Traditionally known as the Gateway of India, it is the second biggest city in the country and the seat of a University.

Bratislava. Capital of the (Federation) of Slovakia. On the eve of Warsaw Pact Powers' intervention in August, 1968 a meeting of top Russian and East European leaders was held here to discuss the political and economic reforms introduced by Czechoslovakia.

Brazzaville. Capital of formerly French Congo and the scene of a short-lived *coup* against President Massemba-Debat on 3rd April, 1968. The President was restored to power within 24 hours.

Brisbane. Port of Brisbane river and Capital of Queensland, Australia. It is the seat of University of Queensland.

Bristol. A major port doing extensive trade with America and Ireland and situated in Gloucestershire, England. It is also an industrial centre.

Brussels. Capital of Belgium. It is a major industrial, commercial and cultural centre. In 1948, the Brussels Treaty (later known as Western European Union) was signed here.

Buenos Aires. Capital of Argentina and an industrial, commercial, financial and social centre. A good port, and rich in grain and cattle, it exports foodgrains and meat products.

Cairo. Capital of U.A.R. Situated at the head of the Nile delta, it is the biggest city in Africa. An ancient city, it has some remarkable specimens of oriental architecture. It is the seat of world's most important Muslim University named El Azhar. It is the chief commercial and industrial centre of the U.A.R. as well as one of the world's most important airports.

Calcutta. Capital of West Bengal, India's largest city and chief commercial port as also an industrial centre with jute and textile mills. It exports jute, tea, mica and light engineering goods. Seat of a University, it is called the 'City of Palaces'. The zoo and botanical gardens, the museum and the Victoria Memorial Hall are some of the worth seeing places in Calcutta.

Calgoorlie. Gold mining centre in West Australia.

Canton. Capital of Chinese Kwangtung Province and the biggest port of S. China. It is a great commercial centre. Exports include tea and silk. It was once the centre of Kuomintang revolutionary movement in China.

Cape Kennedy. New name of Cape Canaveral. Named after President Kennedy of the USA, it is an important US missile testing and space programme centre.

Chandigarh. India's most modern and well-planned city. At present a centrally administered territory, it will be handed over to Punjab in the near future. It houses Capitals of Punjab and Haryana.

Cherrapunji. One of world's wettest places, situated in Assam, with an average rainfall of 500 inches in a year.

(*P & T Clerks, 1962*)

Chicago. Second US city in size and importance, a manufacturing centre, a grains market and world's biggest meat packing centre. It is the seat of heavy industries, cotton and textile mills.

Chidambaram. A town in Tamil Nadu having remains of Dravidian art and a world famous temple of dancing Shiva (Nataraja).

Chittagong. East Pakistan's biggest harbour and important port, exporting raw jute and tea.

Chittaranjan. Located in West Bengal, it is famous for the Chittaranjan Locomotive Works wherein are manufactured locomotives and electric engines.

Chittorgarh. A famous fort in Rajasthan and also known for the Jar Stambha.

Churk. Seat of a cement mill in U.P. (*I.A.S. 1960*)

Cierna. Czech town near Czechoslovakia-USSR border. An important conference of Czech and Soviet leaders was held here on 29 July, 1968 to thrash out mutual problems arising out of the liberalization policy and economic reforms in Czechoslovakia.

Coimbatore. An important textile centre; it is the seat of Government of India's Forest College.

Cologne. A major West German port, metallurgical, chemical and textile manufacturing centre and the creator of Eau-de-Cologne.

Colombo. Capital of Ceylon and its main port exporting tea, rubber and copra. Colombo Plan, an economic development organization, was drawn up here in 1950. Colombo Powers (Cambodia, Ceylon, Burma, Ghana, Indonesia and U.A.R.) proposals of December, 1962 were also formulated here.

Conjeevaram (Kanchipuram). Famous saree centre of South India.

Cotopaxi. A 20,000 ft. high active volcano of the Andes, in the north of Ecuador (South America). It remains snow-bound, but during volcanic eruptions the snow melts and causes extensive floods.

Cuttack. A town in Orissa, formerly its Capital.

Dacca. Capital of East Pakistan. A great jute producing centre, it is also the seat of a University. It is the old-time famous town of celebrated fine muslins. The industry is now extinct.

Dallas. Second largest city of Texas in the U.S.A. A great cotton producing centre, it also manufactures auto and aircraft parts. It was here on 22 November, 1963 that President John F. Kennedy was assassinated by Lee Harvey Oswald.

Dalmianagar. In Bihar, famous for cement manufacture.

Darjeeling. A famous tea producing centre of West Bengal. Lying in the foothills of the Himalayas, it is a popular health resort.

Daulat Beg Oldi. The far-flung Indian outpost in Ladakh which fell to the Chinese in 1962 but later evacuated. It commands the southern end of the Karakoram Pass.

Dayalbagh. A suburb of Agra in U.P., famous for the engineering college, dairy farm and manufacture of minor utility goods.

Dehra Dun. In U.P. lying at the foothills and in a valley, it is the seat of Military Academy, Forest College, and Defence Science Laboratory as also the headquarters of Oil and Natural Gas Commission.

Delhi. Capital of India. A great manufacturing and trading centre, it is famous for most of the country's historical buildings and monuments, e.g., Red Fort, Jama Masjid, Qutab Minar, etc., etc. Important specimens of modern architecture are the massive Secretariat and the Rashtrapati Bhawan, the India Gate, the *Samadhis* of Mahatma Gandhi, Jawaharlal Nehru and Lal Bahadur Shastri. Delhi is a city of contrasts; while New Delhi is perhaps the best laid out city of India, Old Delhi has been recently described by the Indian Health Minister as the dirtiest place in the country. Delhi is important for ivory work, cotton textiles, and earthenware. It is the seat of the Delhi University and has some of world's best hotels and restaurants.

Detroit. Fifth largest city in U.S.A., it is the chief centre of world's auto industry. It is also famous for the manufacture of aircraft and railroad cars.

Dhanbad. Coal mining centre in Bihar. Indian School of Mines and National Fuel Research Centre are also located here.

Dhariwal. A great woollen textile manufacturing centre in the Punjab.

Dhola. The isolated Indian post in N.E.F.A., attacked by the Chinese forces in September, 1962. The post is located about two miles south of the Thagla Ridge. The second massive attack came in the night of 19-20 October, 1962.

Dibrugarh. An important town situated on Brahmaputra in Assam around which many oil wells are located. (*S.C.R.A.*, 1967)

Diego Garcia. A small coral island in the Indian Ocean near Mauritius being developed by Great Britain as a major naval base.

Digboi. Located in Assam, it is famous for its oilfields and the refinery.

Dublin. Capital of Ireland and famous for textiles and brewing industries.

Dum Dum. The noted international airport near Calcutta.

Dusseldorf. Situated at the junction of Rhine and Dussel rivers in north-west Germany, it is a great industrial and commercial centre for steel, machinery and textiles.

Edinburgh. Capital of Scotland, centre of learning and literature since the 18th century. It is associated with many men

of learning. Its industries include engineering, tanning, making of machine tools, chemicals and biscuits.

Essen. Seat of Krupp Steel Works, the city (now in West Germany) was almost destroyed by Allied bombing.

Faridabad. A small colony established about 20 miles away from Delhi after the partition of India to resettle the refugees from West Pakistan. The place has now developed into a huge industrial complex.

Ferozabad. In U.P., famous for glass bangle manufacture.

Gandhinagar. A place in Gujarat, 16 miles away from Ahmedabad. On this site is being built the new Capital of the State.

Geneva. A cultural and financial centre of Switzerland, it produces machinery and watches. A former seat of the League of Nations, it has been the venue of several important international conferences including the one of 1954 on Indo-China that brought peace to South East Asia. U.S., French, British and Russian Heads of State met here in July 1955 to discuss disarmament. U.N. Disarmament Commission has been meeting at Geneva since 1963. The headquarters of the Red Cross Society and International Labour Organisation are also located here.

(Section Officers, 1963)

Gibraltar. A British crown colony situated at the eastern end of Strait of Gibraltar. The Strait connects the Atlantic and the Mediterranean and is considered as the key to Europe. It has been in English possession since 1704. A free port, it serves as a coaling station and port of call. Spain, at present, is laying claim to the territory which is geographically a part of that country.

Gilgit. A part of Kashmir, it is at present under the illegal possession of Pakistan. For its nearness to the Chinese and the Russian borders, it is of great strategic importance.

Gorakhpur. In U.P., seat of a University and headquarters of North Eastern Railway.

Greenwich. Lying on south side of the Thames, six miles away from London, it is the seat of Astronomical Observatory. Considering that the Observatory is situated on zero meridian, the British standard time (Greenwich Mean Time) is the local time of this observatory.

Guntur. In Andhra Pradesh, famous for cigarette manufacture.

Gwalior. Capital of the former princely State of the same name, it is now noted for textiles, cement and biscuit industries.

Hague. Seat of the Government of Netherlands, it was the venue of major international conferences in the 19th century. International Court of Justice, a U.N. organ, is housed here.

Haji Pir Pass. A strategically important pass in the Poonch bulge in Kashmir which served a convenient route for infiltration of 'Pak irregulars to subvert Kashmir in 1965. It was later

captured by the Indian Army but had to be vacated after the Tashkent Agreement.

• **Haldia.** In West Bengal, where a refinery is proposed to be set up. Some proposals regarding foreign collaboration are under the active consideration of the Government of India.

Hamburg. City and seaport of Germany, situated near the mouth of the Elbe river. Severe damage was done to its industry during the last war but its recovery has been quick. The chief industries are distilling, chemicals and machinery manufacture.

Hardwar. Lying at the foothills in U.P., it is a major centre of Hindu pilgrimage. It is situated on the banks of the Ganges. A unit of the Bharat Heavy Electricals Ltd. is located here.

Havana. Capital of Cuba and noted for manufacture of cigars. Largest city and chief port of West Indies, it exports sugar, tobacco etc. It is a city of strategic and commercial importance.

Helena, St. A British Crown island in the Atlantic Ocean. This island served as a prison for Napoleon from 1815 to 1821.

Helsinki. Capital of Finland and venue of 1952 Olympiad.

Hiroshima. A flourishing Japanese town completely destroyed by the first atom bomb in August, 1945. It helped bring war to an end.

Hollywood. The seat of world's biggest film industry. It is located in California, U.S.A.

Hongkong. A British possession comprising the island proper and the adjoining areas on the Chinese mainland. A free port, it is the chief distributing centre for Southern China and Japan on one hand and India and other Asian and European countries on the other.

Howrah. Near Calcutta in West Bengal, noted for jute and textile industries.

Hyderabad. Capital of the former Hyderabad State and now of Andhra Pradesh. It produces cotton, wheat, rice and tobacco. Ivory, wood carving and bidi making are the chief industries.

Imphal. Capital of Manipur State and lying near India-Burma border.

Islamabad. Pakistan's new Capital near Rawalpindi.

Istanbul. Formerly known as Constantinople, it is a city and port of Turkey. Situated on the Sea of Marmara and the Bosphorus, it handles trade between Asia and Europe.

Iwo Jima. Most important and largest of volcanic islands in West Pacific. The island, taken by the Americans after an important naval action during World War II, has now returned to Japan.

Jabalpur. In Madhya Pradesh, it is famous for ordnance manufacture, teak wood and marble quarries.

Jagadhri. Situated in Haryana, it has a sugar mill, a paper mill and some units to manufacture brassware.

Jaipur. Capital of Rajasthan and known as rose-pink city. It is famed for jewellery, enamels and muslins as also for brassware and marble work. A Rajput palace is located in the nearby, deserted city of Amber.

Jakarta. Formerly known as Batavia, it is the Capital and the largest port of Indonesia. It produces textiles, rubber goods, machinery and chemicals and exports minerals, rubber, tea and spices. The Fourth Asian Games were held here in 1962.

Jamaica. Discovered by Columbus in 1494, it is an island in the West Indies and is a member of the Commonwealth of Nations. Its products include sugar, spices, coffee and tobacco.

Jamshedpur (Tatanagar). Situated in Bihar, it is the seat of the Tata Iron and Steel Works. It also houses the National Metallurgical Institute.

Jerusalem. Holy city of the Jews and Christian (Jesus was crucified here) as also one of the chief shrines of Islam all lying in the Old City. The city is divided into New and Old. The New City is the Capital of Israel and the Old one is in Jordan. After the June, 1967 fighting, the Israelis had captured the Jordanian part of the city.

Jharia. Coal mining centre in Bihar.

Jodhpur. An important town in Rajasthan and seat of the Air Force Training Centre.

Johannesburg. Gold mining centre in South Africa.

Kabul. Capital of Afghanistan and a trading centre for dry fruits.

Kalol. A place in Gujarat where oil has been struck recently.

Kundahar. An ancient town and a trading centre in dry fruits. It is situated in Southern Afghanistan.

Kandla. One of the major ports of India, it has been developed recently with a free industrial zone around it. The import into and export from this zone of goods will be duty-free.

Kanjarkot. An Indian post in Kutch which was captured and later vacated by Pakistan. It has now been awarded to Pakistan.

Kanpur. Situated on the Ganges river in U.P., Kanpur is a big industrial and commercial centre with numerous sugar, cotton, woollen, iron and leather factories.

Karachi. Situated in West Pakistan on the Arabian Sea, Karachi is a good sea and air port. It is the former Capital of Pakistan. It exports grains, salt, hides and wool.

Kargil. An important Indian Army installation on the Srinagar-Leh road.

Katni. Located in Madhya Pradesh, it is famous for lime and cement industry. (L.D.C., 1965)

Kharakvasla. Seat of National Defence Academy; located in Maharashtra.

Khartoum. Capital of Sudan, it is situated at the junction of the White and the Blue Nile rivers. It is a commercial and educational centre.

Khe Sanh. A strategic base, located about 20 miles south of the demilitarized zone which separates South and North Vietnam. It stands at the head of major highways and communications system and is considered vital for the defence of South Vietnam.

Kimberley. South Africa's diamond mining and cutting centre, lying to the east of the Kalahari desert.

(S.C.R.A., June 1962)

Kodaikanal. A mountainous health resort in Tamil Nadu.

Kolar. In Mysore, the seat of India's only goldfields.

Konark. In Orissa. The famous Sun-God temple, considered to be the finest specimen of Hindu architecture, is located here.

Koyali. Near Baroda in Gujarat, the seat of a public sector oil refinery, established with Soviet collaboration.

Koynanagar (Maharashtra). A place about 250 miles away from Bombay in Maharashtra and scene of a disastrous earthquake in December, 1967. The Koyna project nearby remained largely unaffected.

(I.M.A., Stenos, 1962)

Kurile Islands. A group of 50 mainly volcanic islands in North Pacific. These were annexed by Russia in 1945 in accordance with Yalta Agreement of February of that year between Stalin, Roosevelt and Churchill.

Ladakh. A region in Northern Kashmir adjoining Tibetan border, it was the scene of heavy fighting between Indian and Chinese forces in 1962 when China launched her treacherous attack on India in NEFA and Ladakh.

Lagos. Capital of Nigeria and its chief port. It witnessed in 1966 a coup in which the country's Prime Minister was killed and General Ironsi took over power. He was later ousted by Col. Gowon.

Lahore. An ancient city and Capital of West Pakistan. Seat of a University and numerous colleges, it is also a great commercial centre which handles all surface trade with India.

Leh. The most important town of Ladakh, Kashmir and a station of considerable strategic importance. It lies on the caravan route to Central Asia. It has a small Air Force aerodrome.

Leningrad. Formerly named St. Petersburg, it was the Capital of Tzarist Russia. Leningrad earned the distinction of "Heroes City" for its two-year valiant resistance against the Germans during World War II. Leningrad is the principal port and foremost machine and electrical goods manufacturing centre of the U.S.S.R. It lies at the southern end of Karelian Isthmus.

Lhasa. Capital of Tibet. Due to the traditional hostility of Tibetan lamas to the foreigners, Lhasa was known in the past as the "forbidden city"

Lisbon. Capital and port of Portugal, it handles exports of cork and wine.



Liverpool. England's famous ship-building centre and a port.

London. Capital of England, a seat of learning, financial hub and the third biggest city in the world. Situated on river Thames, it has some most beautiful buildings. It is also called the home of democracy.

Longju. An Indian post in NEFA, attacked and captured by the Chinese in August, 1959. They were, however, forced to withdraw from it later.

Lop Nor. The place where the first Chinese atomic explosion took place. It is located in Sinkiang province of China.

Los Angeles. A city in California State of the U.S.A., and the capital of the world's film industry.

Lucknow. Capital of U.P., seat of a University and a cultural centre. It is famous for gold and embroidery work.

Ludhiana. A major industrial and manufacturing town of India. Located in the Punjab, it is noted for hosiery, cycles and sewing machine manufacture.

Lyons. A port at the confluence of Rhine and Seine rivers in France. It is a leading silk and rayon centre of Europe.

Madras. A port and Capital of Tamil Nadu. A great manufacturing and commercial city, it is the seat of Central Leather Research Institute.

Madrid. Capital of Spain. It is the communication centre of Spain.

Madurai. In Tamil Nadu, famous chiefly for the beautiful Meenakshi Temple. It is also noted for cotton textiles and handicrafts. (I.A.S., 1956)

Mahabalipuram. Located in Tamil Nadu, it is famous for the massive sculptures hewn out of solid rock and the temple with Mahavishnu in a sleeping posture, built in the 7th century by the Pallav King Narasimha Varma. Near here at Kalpakam, an atomic power station is proposed to be built during the Fourth Five-Year Plan.

Manchester. A town in England; it is world's foremost cotton manufacturing centre, specialising in superior textile goods.

Manila. An important port of Philippines; S.E.A.T.O. Pact, also known as Manila Pact, was signed here in 1954.

Marmagao. An important Goan port exporting manganese and cashewnuts. (Dhanbad, 1963)

Marseilles. A city of Southern France and a great port; it exports silk, wine and oil. It has soap, chemicals, machinery and ship-building industries.

Mathura. An ancient town between Delhi and Agra. It is the birth-place of Lord Krishna.

Mauritius. Freed on 12 March, 1968, it is an island in the Indian Ocean with Port Louis as the Capital. Sugar is the main produce which is exported. During the 19th century, especially

after the abolition of slavery in the British Empire, thousands of Indians migrated to the island and at present they outnumber the native Negroes.

Mecca. In Saudi Arabia, it is the birth-place of Prophet Mohammad and the biggest centre of Muslim pilgrimage.

(I.A.S., 1966)

Melbourne. Provincial Capital of Victoria (Australia) and a port. It is a commercial centre, manufacturing textiles and machinery. It also exports wheat, meat and wool. The 1956 Olympiad was held here.

Memphis. A city in the State of Tennessee (USA). The world famous American Negro leader Dr. Martin Luther King was assassinated here on 4 April, 1968.

Monaco. A small 370-acre principality on the Mediterranean in S.E. France with Prince Rainier III as the ruler. It is famous for the gambling casino.

(Dhanbad, 1957)

Montreal. Largest city in Canada and its commercial, financial and industrial centre. An excellent harbour, it is also famous for the manufacture of steel products, railroad equipment, machinery and paper. It has largely French population.

Moradabad. In U.P., famous for brassware, cutlery and enamel industry.

Moscow. Capital of U. S. S. R. and its largest industrial concentration. It produces one sixth of Russian total output of steel, machinery, automobiles, textiles and chemicals. The Headquarters of the Communist Party, and various other industrial and communications complexes are located here. It is the seat of world's most famous art galleries, theatres and museums.

Mount Abu. A health resort in Rajasthan, situated at an elevation of 3,800 feet from sea level. It is famous for the unrivalled Jain Dilwara Temples and the beautiful Nikki Lake.

Munich. Situated at the foot of Bavarian Alps and on the Isar river, it is an industrial centre producing machinery, chemicals and precision instruments. Brewing and printing are also notable industries. The famous Munich Pact of 1938 between Germany, Italy, Britain and France was signed here.

Murshidabad. In West Bengal, noted for its silk industry.

Nagasaki. A town and port on the Nagasaki Bay of Japan. It was the victim of the second atom bomb during World War II and was responsible for bringing the war to a close.

Nagpur. In Maharashtra, seat of a University and famous for oranges.

Nairobi. Capital of Kenya in East Africa, known for its light industries, game hunting (as a base) and as commercial centre.

Namchi Bazar. A small hill town at the foot of Mount Everest in South East Nepal. It serves as the main supply base to all Everest expeditions.

Naples. Italy's major seaport and a lovely city, it is noted for metal and leather products, textiles, silk and chemicals.

Nasik. In Maharashtra, known for the location of Security, Currency Printing Press here.

Nepanagar (M.P.). India's first newsprint mill was established here in 1955.

Newcastle (on Tyne). Situated on the Tyne river in England, it is famous for its coal-shipping industry. It is also the chief ship-building centre of the country.

New Orleans. City and port of Louisiana, U.S.A. It is a busy manufacturing centre, a great cotton market and a major port of entry. It exports lumber, petroleum products and machinery.

New York. Situated at the mouth of Hudson river, in U.S.A., New York is the greatest port and the second biggest city in the world. A great centre of industries like clothing, textiles, printing and publishing, it is also America's commercial and financial metropolis. U.N. headquarters is located here. It is the city of skyscrapers

Neyveli. Situated in the South Arcot Distt. of Tamil Nadu, it is famous for the lignite mining industry and the USSR-aided thermal power project. A monazite factory is also located here.

Noonmati (Nunmati). Near Gauhati, Assam, it is the seat of the new oil refinery, set up by the Indian Refineries Ltd. (Public sector) with the collaboration of the Rumanian Government in January, 1962.

Osaka. Situated at the mouth of river Yodo in Japan, it is the focal point of an industrial belt with sugar refineries, iron works, spinning mills etc. It also trades in rice and tea.

Oslo. Capital of Norway, a port and an industrial and commercial centre. It is noted for the manufacture of chemicals, clothing and paper.

Ottawa. Capital of Canada. Paper milling, woodwork and watchmaking are the chief industries.

Panipat. A small town in Haryana, scene of three historic battles of 1526, 1556 and 1761.

Panna. In Madhya Pradesh, famous for diamond mines.

Paris. Capital of France. A city of sophistication and refinement. It is the cultural and fashion metropolis of the world.

Parsanath. In Bihar, a place of Jain pilgrimage.

Paro. Situated in Bhutan about 20 miles west of Thimpu, the Capital, it was in the news recently when Mr. Morarji Desai, inaugurated there the Kingdom's first airfield, constructed by India's Border Roads Organization.

Patna. Capital of Bihar, seat of the University of the same name. It is the birthplace of Guru Gobind Singh.

Pearl Harbour. A key naval base of the U.S.A. in Hawaii Islands which was subjected to severe Japanese air attack on

7 December, 1941. The next day, U.S.A. declared war against Japan.

Peking. Capital of Communist China and scene of the recent Red Guards rampage. Peking has been a city in turmoil due to the activities of the Maoists.

Perambur. A place in Tamil Nadu, seat of the Integral Coach Factory. *(Roorkee Engg., 1966)*

Philadelphia. Major port and industrial centre of U.S.A. Important industries include oil refining, metal working and ship-building, manufacture of chemicals, textiles and rail-road cars. It was Capital of the U.S. from 1790 to 1800.

Pisa. In Italy, known for the Leaning Tower.

(N.D.A., May, 1963)

Pittsburgh. America's chief iron and steel producing centre, it is situated in rich coal, gas and oil region. A fine port, it exports petroleum products and electrical equipment. *(I.A.S., 1966)*

Plassey. In West Bengal, the scene of famous battle between Clive and Siraj-ud-Doula in 1757. The latter's defeat paved the way for the British rule in India.

Pondicherry. A former French territory, 112 sq. miles in area, now centrally administered by India. Situated on India's Eastern Coast, it is the seat of Aurobindo Ashram.

Poona. A popular health resort in Maharashtra and the seat of Maratha power, it is a commercial centre and a Military station.

Porbandar. Situated in Gujarat, it is the birth-place of Mahatma Gandhi.

Port Blair. Capital of India's Bay of Bengal islands named Andaman and Nicobar Islands, 3200 sq. miles in area with timber and copra as chief industries.

Potsdam. Situated near Berlin (East Germany), it is the seat of East Germany's film industry. It was the scene of famous Potsdam Conference of Allied Heads of States to decide the future of Germany.

Pradeep port. A recently developed port on the Eastern Coast in Orissa.

Prague. Capital of Czechoslovakia, it is a commercial and industrial centre, producing machinery and foodstuffs.

Pretoria. Administrative Capital of South Africa, it is a rail centre and has steel mills. It is also the seat of a University.

Puri. In Orissa, on the Eastern Coast, famous for the Jagannath Temple which is an important centre of Hindu pilgrimage.

Rameshwaram. A Hindu pilgrimage centre at the southern most end of India with a large ancient temple.

Rana Pratap Sagar. (Rajasthan) India's second atomic power station is being established here.

Ranchi. A popular hill station in Bihar, also the seat of the heavy machine tools plant installed with Czech, collaboration. *(Roorkee Engg. 1966)*

Rangoon. Capital of Burma and its major port, exporting rice, oil and teak. It was severely damaged during World War II.

Raniganj. Famous coal mining centre of India. Located in West Bengal.

Rawalpindi. In West Pakistan, temporary Capital of Pakistan (until Islamabad comes up), seat of Pak Army Headquarters and a huge military complex.

Rio de Janeiro. Brazil's major seaport, exporting coffee, manganese, iron ore and cotton. Manufactures include glass, textiles and chemicals.

Rishikesh. A small town beyond Hardwar on the Ganges. It is the seat of an antibiotics factory. (*Roorkee Engg. 1966*)

Rome. Capital of Italy and housing the Vatican City, seat of Papal authority. Called the "Eternal City", Rome has been a cultural, artistic and religious centre. It is also called "Holy City".

Roorkee. A town in U.P. on way to Hardwar, the seat of Engineering University of the same name and Central Building Research Institute. (*N.D.A., May, 1960*)

Rouen. A city in northern France on the mouth of the Seine river. Cotton manufacturing is the main industry.

Rourkela. Situated in Orissa, it is the seat of German-aided steel plant in the public sector.

Rudrasagar and Lakwa. Near Sibsagar in Assam, where oil has been discovered by the Oil and Natural Gas Commission.

Ruhr. 2000. sq mile district of Germany, world's densest and most important industrial complex. Coal mining, steel, machinery and chemicals are the main industries.

Saarland. A 991-sq. mile State of West Germany and home of coal and steel industry. Under the Treaty of Versailles, 1919, it was made an autonomous territory under the French mandate but after a plebiscite in 1933 it was again merged with Germany. Occupied by the French during and after World War II, the territory was again ceded to West Germany in 1957.

Sabarmati. In Gujarat near Ahmedabad, seat of Mahatma Gandhi's Ashram. (*I.M.A., 1960; N.D.A., May, 1966*)

Saigon. Capital of South Vietnam, a major seaport and the base of South Vietnamese and American war against the communist guerillas.

Sambhar. In Rajasthan, a salt water lake. Salt-making is the chief industry.

Sanchi. Near Bhopal in Madhya Pradesh, it is noted for the Buddhist stupas of Ashoka (250 B.C.). It is an important Buddhist pilgrimage centre. (*N.D.A., 1966*)

Sandhurst. In England near London, it is the seat of the Royal Military College for the cavalry and infantry officers, founded in 1812.

San Francisco. A major seaport on America's West Coast, exporting wheat, wool and wines. Its chief industries are ship-building, food processing, manufacture of machinery and chemicals. The U.N. Charter (1945) and Japanese Treaty (1951) were signed here.

San Salvador. Capital of El Salvador; suffers from recurrent and severe earthquakes.

Sarnath. Holy place for the Buddhists near Varanasi where Buddha preached his first sermon. Ruins of ancient temples exist here.

Selma. City on the Alabama river, Alabama, U.S.A., noted for cotton and dairy products. Few years ago it was the scene of Negro agitation when the coloureds led by late Dr. Martin Luther King, the Negro Civil Rights leader, staged a march to Montgomery, protected by the Federal police but strongly intimidated by the State authorities and the Ku Klux Klan.

Sevagram. Near Wardha in Maharashtra, famous for Mahatma Gandhi's Ashram. (*M.C., Nov., 1959: N.D.A., May, 1966*)

Seychelles. British crown colony (area 156 sq. miles) comprising 92 volcanic islands in the Indian Ocean. Here in 1957, Archbishop of Makarios was exiled.

Shanghai. Largest city of China and most important seaport handling a major portion of the country's foreign trade. Chief silk and cotton textiles manufacturing centre, it is a great commercial and educational centre. It is second only to Peking in importance. Recently, it was the scene of extensive Red Guards hooliganism.

Sheffield. In England, seat of the University of the same name and a cutlery manufacturing centre since 14th century. Tools and heavy steel goods are also manufactured.

Shillong. A hill station and health resort in Assam known for tea-plantations.

Sholapur. Cotton textiles manufacturing centre in Maharashtra.

Simla. A clean, beautiful health resort at 7503 ft. above sea level, recently awarded to Himachal Pradesh. Lying in the middle Himalayan range, it commands routes to Kulu and Tibet. Seat of the Western Command, it is an important military station.

Sindri. In Bihar, famous for the fertilizers factory.

Singapore. Most important seaport of the East, a big British naval base and a coaling station. Formerly a part of Malaysia, it seceded from the Union and became independent in 1965. It is the leading port for the export of tin and rubber. Population is overwhelmingly Chinese.

Srinagar. Capital of Jammu and Kashmir and a beautiful city of lakes. The Jhelum winds its way through the city. A great tourist attraction, it is a town of houseboats and luxurious hotels. Manufacture of silk and silk cloth, wood carving, shawls, carpets and embroidery are main industries. The valley around Srinagar is the home of luscious fruit. The city was the chief target of attack by Pak raiders in 1947 and 1965.

Sydney. A provincial capital, it is the biggest city of Australia. Banking, commercial and shipping centre of the country, it produces textiles, automobiles and chemicals.

Tanjore. A town in Tamil Nadu, famous for silks, carpets and jewellery. It has the magnificent 11th century temple of remarkable Dravidian art and architecture. (*N.D.A., May, 1966*)

Tashkent. Capital of Uzbekistan, U.S.S.R. and one of the oldest cities of Central Asia. It produces (it is an oasis) fruit, vegetables, cotton and silk. In January, 1966, the city played host to Prime Minister Lal Bahadur Shastri, President Ayub Khan of Pakistan and Russian Prime Minister Mr. Kosygin. They had met there to settle Indo-Pak problems after the 1965 fighting between India and Pakistan. Mr. Kosygin helped the two leaders to conclude the Tashkent Agreement, whereby the two countries pledged to withdraw forces to their former positions, normalise relations and renounce use of force to settle disputes. A few hours after the signing of the agreement, Mr. Shastri suffered a heart attack and died.

Tatanagar. Same as Jamshedpur.

Thumba. A place near Trivandrum in Kerala, being developed as an UN-sponsored international station for equatorial rocket launching. The station is being managed by Indian engineers.

Titagarh. Calcutta's suburb, famous for paper manufacture.

Tokyo. Capital of Japan, world's largest city and chief industrial, commercial, financial, and educational centre. Main industries are match-making, chemicals and machine goods.

Trieste. An important seaport at the head of the Adriatic in North Italy. It has shipyards, iron works and oil refineries. Annexed by Italy in 1919, it was captured by the Allies during World War II and was made a free State under U.N. protectorate in 1947. In 1954, the city and its environs were awarded to Italy and the coastal strip to Yugoslavia. Yugoslavia retains free use of the port.

Trombay. The seat of two oil refineries set up by ESSO and Burmah Shell in 1954 and 1955 respectively (under the First Five Year Plan) and the two atomic reactors set up in 1956 and 1961. Trombay is a small island off Bombay. (*L.D.C., 1965*)

Udaipur. A former princely State of the same name; also a city in Rajasthan, it is known for the scenic beauty of its palaces and lakes. (*N.D.A., May, 1966*)

Ujjain. An ancient city in Madhya Pradesh, an important centre of Hindu pilgrimage because of Mahankleshwar Temple. Known as Magdha in ancient times, it was the capital of King Vikramaditya.

Vaishali. In Mysore. An Air Force training centre is located here.

Varanasi. See under Banaras.

Versailles. A city in France and the venue of numerous international treaties, most important being the Treaty of 1919, signed between the Allied powers (less Russia) and Germany. It ended World War I.

Vienna. Capital of Austria and cultural and commercial centre, it was the centre of art and science during 18th, 19th and early 20th centuries (Mozart, Haydn; Beethoven etc.). It is known for the manufacture of glass, silk and vitrolite.

Vishakhapatnam. Situated on the Eastern Coast of India in Andhra, it is the seat of ship-building industry and the Caltex refinery set up in 1957 under the First Five Year Plan.

(*Roorkee Engg., 1966*)

Wardha. In Maharashtra, where Mahatma Gandhi lived and worked for several years. The Mahatma evolved his Wardha system of education here. (*I.A.S., 1957*)

Warsaw. Capital of Poland, commercial and industrial centre, manufacturing chemicals, automobiles, textiles and food products. Here in 1955, Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, and U.S.S.R. signed a defence treaty to meet the situation allegedly created by the re-militarisation of West Germany under the Paris Pacts. From 1962 onwards, Albania ceased to be invited to the Pact conferences.

Washington. Federal Capital of the U.S.A., situated on the Potomac river and the seat of four Universities. Printing, publishing and preparation of foodstuffs are the main industries. It has the famous "White House", the official residence of the American President and "Pentagon", the seat of U.S. Armed Forces.

Wimbledon. A London suburb and headquarters of English Tennis with famous Tennis grounds where international Tennis matches are held. (*Dhanbad, 1957; R.A.S., 1958; S.C.R.A., 1961*)

Yakohama. An important seaport of Japan.

Zanzibar. Comprises two coral islands off the coast of Tanganyika, East Africa and world's leading producer of cloves. Both Tanganyika and Zanzibar have been merged into "Tanzania".

Zurich. Situated at the Alpine foothills in N. Switzerland, it is the largest city of that country. It produces textiles, machinery, radios and chemicals. It is also a commercial and financial centre. The Lake of Zurich is a beautiful scenic spot which draws tourists from all over the world.

WORLD'S IMPORTANT MONUMENTS, BUILDINGS AND PLACES

Abu Simbal (Simbel). A place on the Nile river (near the site of the Aswan Dam) in U.A.R. Known for the most ancient and wonderful rock temples, with sculptured figures 65 ft. high, built by Rameses II. These temples, which would have been submerged by the Aswan Dam, have now been removed and installed at a safe place nearby. (*I.A.S., 1964*)

Adam's Bridge. It is a line of rocks and sandbanks between India and Ceylon. When the tide is high, it is completely submerged and is invisible. The "Bridge" is 17 miles long. (*N.D.A., May 1963*)

Ajanta (Ellora). Picturesque ruins about 13 miles away from Aurangabad (Maharashtra) famous for their temples and caves. Extending over a mile in area, these caves were cut in the rocks. The rock temples include Buddhist, Brahmin and Jain examples and date from the 5th, 9th and 10th centuries. The most famous among these ruins is the Kailash Temple. (*I.T.I., 1966; I.N., 1966*)

Arvi. Situated near Poona, it is the first earth station in India, being built to receive television broadcasts from the communication Satellite—INTELSAT III—over the Indian Ocean. This

will help the world television programmes to reach viewers in India.

Aswan Dam. Name of the Dam at present under construction in the U.A.R. on the river Nile. Envisaged to irrigate about 2 million acres of land, the dam will cost \$ 1300 million and is being financed by the Soviet Union. (*I.A.F., Nov., 1960; I.A.S., 1964*)

Auroville. Name of the international township near Pondicherry, being built by the Aurobindo Ashram in collaboration with UNESCO.

Banihal Tunnel. See under Jawahar Tunnel.

Bedber. The US electronic base near Peshawar (West Pakistan) which has since been got vacated. The base, for many years, served as an American "listening post" near the Russian and Chinese borders.

Big Ben. The clock on the tower of the Parliament House in London. It was installed in 1859.

Billingsgate. London's wharf and fish market, situated near London Bridge. It dates from 1699.

Bodh Gaya. A Buddhist pilgrimage centre in Bihar near Patna where Gautama Buddha had received enlightenment under the Mahabodhi tree.

Bogor Palace. A former official summer residence of ex-President Sukarno of Indonesia. Situated about 40 miles south of Jakarta, the palace is now the venue of important official conferences.

Bond Street. The famous London shopping centre named after Sir John Bond, a member of the household of Queen Henrietta Maria. The Street is known for its elegant shops and fashionable residences.

Bridge of Sighs. The covered stone bridge in Venice, Italy, built in the 16th century to connect the prison and the ducal palace. Prisoners were led over the bridge after their trial in the palace.

Broadway. The longest street in the world extending from the Manhattan Island to Albany, a distance of 150 miles. It passes through the Wall Street, America's financial centre and enters the Theatre District at Times Square. The Theatre District is generally known as the Broadway and houses numerous theatres and cinema houses.

Buckingham Palace. The London residence of the British Crown. (*Dufferin, 1961; Kharagpur, 1963; I.T. Insp., 1966*)

Buland Darwaza (Lofty Gateway). The 176-ft. high gateway at Fatehpur Sikri near Agra, built by Akbar in 1575-76 to commemorate the imperial conquest of Gujarat. It is the loftiest gate in the world. (*A.I.I.M.S., 1966*)

Chandranath Hill. The Hindu temple in East Pakistan which the Pakistanis recently desecrated by occupying and putting it to military use.

Cochin (Kerala). Lying on the Western Coast, it is one of the major ports in India and the finest natural harbour in the East. It has a wide range of export and import trade.

Colosseum. The huge four-storeyed Flavian amphitheatre in Rome, built in 72-80 A.D. (at present found in ruins). Built to accommodate 50,000 spectators, it was used for gladiatorial and other shows. A number of Christians were also martyred in it.

Colossus of Rhodes. One of the Seven Wonders of the ancient world, it is a large bronze statue of the Sun God, Helios, in Rhodes harbour. Built by Chares in 292-280 B.C., it fell in an earthquake in 224 B.C.

Corsica. An island in the Mediterranean, S E. of France and North of Sardinia. Napoleon was born here. (*I.A.F.*, 1962)

Dalal Street. Bombay's stock exchange market.

Dholbaha. A small town in Hoshiarpur District of Punjab in the Shivalik Hills. Many valuable geological and archaeological relics have recently been uncarthed here.

Dilwara Temples. The 12th century Jain temples near Mount Abu in Rajasthan and famous for their architectural beauty. They are a big draw among the Jain followers in India.

Downing Street. A London street leading from Whitehall and named after Sir George Downing, Secretary to the Treasury, 1667. In this Street are the official residences of the British Prime Minister (No. 10.), the Chancellor of the Exchequer (No. 11) and the offices of the Chief Whip of the ruling party (No. 12). All the British Prime Ministers since Robert Walpole have lived at No. 10 in this Street.

Eiffel Tower. The gigantic iron structure, 984 ft. in height, in Paris, designed by Alexander Gustave, a French engineer, for the exhibition of 1889. It is the highest tower in the world.

Elba. A small island, covering 90 sq. miles, in the Mediterranean Sea. Napoleon was exiled here from May 1814 to February, 1815. (*I.A.F.*, April, 1962; *I.A.S.*, 1966)

Elephanta Caves. A small island, about 14 sq. miles in area off Bombay harbour in Maharashtra, famous for Brahmanic cave temples of the 8th century. The striking Trimurti statue of Siva is a big draw. (*I.A.F.*, 1959; *I.S.R.*, 1959; *M.C. Nov.*, 1960)

Ellora. See under Ajanta. (*Roorkee*, 1963; *S.C.R.A.*, 1965)

Elysee Palace. Official residence of the President of France.

Empire State Building. The 102-storeyed, 1250 ft. high, tallest building in the world, situated in central Manhattan, New York and built in 1930-31.

Fatehpur Sikri. About 20 miles away from Agra, it was built as a new Capital for the Mughal Empire by Akbar the Great in 1574. It served as a Capital up to 1585. Known earlier as Fatehabad, it was renamed as Fatehpur after the conquest of Gujarat. There are still some beautiful ruins of this old city, visited in thousands by Indians and foreigners. (*N.D.A.*, May, 1963; *S.C.R.A.* 1966)

Fleet Street. The centre of journalism in London. Most of the country's newspapers are published from this Street.

(*I.A.S.*, 1966)

Fort Knox. The well-guarded fort in Kentucky, U.S.A., containing the principal US bullion depository, built in 1936. The fabulous treasure, gold reserves worth \$10 billions are housed in a solid square bombproof building of granite, concrete and steel.*

Gateway of India. Situated in Bombay Harbour, it was built in 1911, a little before King George V visited India.

(*Kharagpur: 1963*)

Gaya. A commercial city in central Bihar, famous for Hindu (Vishnu) temples. Bodhi Gaya where Lord Buddha received enlightenment is a little distance away from Gaya.

Gir Forest. A 570-sq. mile sanctuary (in Gujarat State) and the home of the "*Gir Lion*". According to a census taken in May, 1968, there were 177 lions in the forest as against 285, counted in 1963. The *Gir Lion* is one of the oldest inhabitants of India.

Golden Temple. Situated in Amritsar, an important city of the Punjab and one of North India's most important towns. The foundation of the Golden Temple was laid by Guru Ram Das, the fourth Guru of the Sikhs in 1577. It is the greatest Sikh pilgrimage centre and the main seat of Sikh religious power. It is a great tourist attraction.

(*Dufferin, 1961 ; Kharagpur, 1963 ; N.D.A. 1966*)

Gole Gumbaz. Situated in Bijapur, Mysore, it is the largest dome in the world.

Gomateswara, Statue of. (Mysore). The stone statue is the giant figure of Gomateswara, a Jain saint, and is over 2000 years old.

(*S.C.R.A., 1969*)

Great Barrier Reef. The 1250-mile long world's greatest coral reef in the Coral Sea, forming natural backwater for the coast of Queensland, Australia. The channel between the reef and the mainland has many islets with coral gardens and unusual marine life.

Great Wall of China. About 1500 miles long wall fortification in China running from Kansu province to Hopei province mostly along the edge of Mongolian plateau. It was built during the Chin dynasty in China (265-420 A.D.).

Gulistan Palace. The residence in Teheran of the Shah of Iran.

Hall of Mirrors. The City Hall of Bratislava, the Capital of Slovakia (in Czechoslovakia). Here, on 3 August, 1968 was held a conference of the Warsaw Pact countries' leaders to discuss the reformist revolution in Czechoslovakia.

Hampi. In Mysore having the ruins of Vijayanagar empire.

Hanging Gardens (of Babylon). The terraced Gardens of Babylon, about 300 ft. above the plain, laid by Nebuchadnezzar before 562 B.C. They are one of the Seven Wonders of the world.

Harappa. In Montgomery district of West Pakistan where ruins of the Indus Valley Civilization have been discovered. It was an urban civilization resembling that of Mesopotamia in the 3rd millennium B.C. Some undeciphered writings that have been discovered are apparently related to the Brahmi alphabet of India and to South Arabian alphabet.

(*S.C.R.A. 1963*)

Hyde Park. The 360-acre park (formerly a deer park) in West London, the meeting place of soapbox orators.

• **Jagannath Temple.** At Puri in Orissa, noted for the annual Car Festival.

Jallianwala Bagh (Amritsar). On 13 April, 1919, an innocent crowd was, without warning, subjected to indiscriminate shooting, resulting in many deaths. At this place now stands the *Flame of Liberty*, a monument in the memory of those martyred. It was unveiled by President Rajendra Prasad in 1961.

• **Jama Masjid.** The most important mosque in Old Delhi where Muslims offer their ceremonial prayers. It was built by Shahjehan.

Jawahar tunnel (Banihal Tunnel). About 2 miles long tunnel in Jammu and Kashmir down the Banihal Pass, facilitating all-weather traffic between Jammu and Kashmir Valley. The tunnel was opened in 1956.

Jodrell Bank. Situated in Cheshire, England, it houses the world famous observatory wherein is installed the giant 750 ton radio telescope belonging to the Manchester University. Its contribution towards astronomical and space research has been considerable.

Kaaba. The sacred shrine in the great mosque of Mecca with an oval black stone (Sang-i-Aswad) which Angel Gabriel is said to have given to Abraham. Even before Prophet Mohammad, this stone was an object of worship.

Kailash Temple. It is the gorgeous rock-cut temple in the Ellora Caves in Maharashtra. Built in the 8th century A.D., it bears rich carvings relating to the story of Siva and to the Ramayana epic.

Kaziranga. A game sanctuary in Assam for rhinos and some other animals. (N.D.A., May, 1969)

Keoladeo Ghana Sanctuary. The world famous water-birds sanctuary near Bharatpur (Rajasthan), 100 miles South of Delhi.

(N.D.A., May 1969)

Kew. The famous botanical gardens west of London.

Khajuraho. A village in Chatarpur Distt. of Madhya Pradesh made famous by the 20 extant temples, built by the Chandel Rajput Kings, and dedicated to Shiva and Vishnu. These temples are famous for their massive architectural art and design and mainly for the finest pieces of Hindu erotic sculpture.

(I.A.S., 1962 ; N.D.A., May, 1963)

Konark Temple. Situated in Orissa, the temple is famous for the Chariot Wheel, dedicated to the Sun God.

Kremlin. A 100-acre citadel, triangular in shape, forming the core of Moscow town. Here were the Tzars crowned and buried. Now it houses the Soviet government and some of the top leaders.

• **Lake Success.** A tiny village on Long Island, North East of New York. It was the temporary headquarters of the UNO (1946-51).

Leaning Tower of Pisa. Pisa has been a famous town of Central Italy since the 13th century, and was a seat of an architectural school founded by Nicola Pisano. The famous leaning tower that is situated here is about 180 ft. high (14 ft. out of perpendicular). It was slightly damaged during World War II.

(*I.M.A.*, 1966)

Lighthouse of Alexandria. Believed to have been built by Pharos in the ancient times, the 400 ft. high lighthouse guided the sailors by its fire that burned at the top of the tower.

Lothal. In Gujarat, where the recent excavations have established a possible link with the Indus Valley Civilization.

Louvre. Built in 1204 as a fortress-palace, it was converted into a national art museum by Napoleon and has Leonardo's *Mona Lisa* as one of its most precious possessions. (*N.D.A.*, Dec. 1962)

Lumbini. Located in Nepal, it is claimed to be the birth-place of Gautama Buddha. The Nepal Government plan to develop the place into an international tourist attraction.

Mahankleshwar Temple. In Ujjain, Madhya Pradesh, it is one of the most famous temples of India known for its artistic carvings.

Meenakshi Temple. In Madurai, Tamil Nadu, famous for its lofty (about 800 ft. high) architectural design and art, and a hall of a thousand pillars with highly artistic single-stone carvings.

Mohenjo Daro. In the Larkana district of former Sind (now West Pakistan), it is known for the excavated remains of the Indus Valley Civilization, a highly developed urban civilization attributed to the Dravidians. (*N.D.A.*, Dec. 1962 ; *Roorkee*, 1965)

Monte Carlo. A small principality of Monaco, on the Riviera and known as the most fabulous gambling resort of the world. (*I.A.S.*, 1966)

Nalanda. Near Patna, an ancient Buddhist university of world fame. Students from the various parts of the Buddhist world used to come here to study. It could impart instructions to 10,000 students at a time.

(*I.A.S.*, 1959 ; *I.A.F.*, 1959 ; *S.C.R.A.*, 1965)

Niagra Falls. The world famous falls of the Niagra river located on the international border of USA (New York) and Canada (Ontario). The falls on the Canadian side are called the "Horseshoe Falls" and those on the American side as "Niagra Falls". The falls are also an important source of hydro-electric power.

Nikki Lake. Situated at Mount Abu in Rajasthan at a height of 3,800 feet from sea level, the lake draws tourists from Rajasthan and Gujarat.

Notre Dame (Cathedral). Means "Our Lady". Churches were built and dedicated to the Virgin throughout Christendom. Here it relates to the cathedral, a magnificent building of Gothic art, built in 1363, standing on an island in the river, in Paris.

(*N.D.A.*, May, 1963)

Pentagon. The five-sided building in Washington, housing the headquarters of America's Defence Force.

(*S.C.R.A.*, June, 1963)

Pyramids. The ancient Egyptian monumental structures, built as royal tombs about 2900 B.C. Standing a few miles East of Cairo, the largest of them—Pyramid of Cheops—covers 13 acres and is 768 ft. square and 482 ft. high.

(*S.C.R.A.*, 1960)

Potala. Dalai Lama's palace at Lhasa, Tibet. When Dalai Lama fled from Lhasa to take refuge in India, his palace was attacked and bombed by the Chinese planes.

Qutab Minar. Built at Delhi in 1232 by Altamash (Slave Dynasty), it is famous for its massive grandeur and beauty of design.

Rabindra Rangshala. One of world's largest open-air theatres, it is situated on the Upper Ridge Road in New Delhi. It covers an area of 37 acres and can accommodate about 9,000 persons.

Rajghat. The site on the bank of Yamuna in Delhi where Mahatma Gandhi was cremated.

Rashtrapati Bhawan. Formerly the residence of the British Viceroys and known as the "Viceregal Lodge", it is the official residence of the President of India. It was designed by Edwin Lutyens.

Red Square. Lying in the heart of Moscow, USSR, Red Square abuts on one side of Kremlin, the seat of Soviet power, and contains the Mausoleum of Lenin. Major parades, demonstrations and important functions are held in this Square.

Sanchi. In Bhopal, Madhya Pradesh, it is famous for the Buddhist stupas, visited by thousands of pilgrims every year.

Sarnath. Near Varanasi, U.P., where Buddha preached his first sermon. It is an important pilgrimage centre of the Buddhists.

Sevagram. Near Wardha in Maharashtra where Mahatma Gandhi lived and worked for many years. Here was also evolved the Wardha system of education.

Scotland Yard. Headquarters of the Metropolitan Police in London. The Criminal Investigation Department (C.I.D.) is a part of this organisation.

Shantiniketan. In Bolepur, West Bengal, an ideal national university founded by Rabindra Nath Tagore.

Shanti Vana. The proposed deer park being developed round the place on the bank of the Yamuna in Delhi where Jawahar Lal Nehru was cremated.

(*I.T.O.* 1966.)

Sikandra (U.P.) Situated a few miles away from Delhi. The Mughal emperor Akbar lies buried here.

Taj Mahal. The massive white marble mausoleum at Agra, built by Shahjehan to perpetuate the memory of his queen. This colossal "Dream in Marble" was the result of years of painstaking effort by thousands of workers and numerous architects.

Tal Ramad. A hill overlooking Damascus, the Capital of Syria. It was said to have been the best man-made settlement in the Middle East in the prehistoric times.

Taxila. Ruins of bygone Buddhist glory found near Rawalpindi, West Pakistan. It was a famous Buddhist university of its time.

Teenmurti House. The former official residence of Prime Minister Nehru which now houses the Nehru Museum.

Temple of Diana. At Ephesus, on the coast of Asia Minor, built and rebuilt in the 6th and 4th century B.C. respectively, and regarded as one of the Wonders of the World.

Tower Bridge. The bridge across the Thames in London, opened in 1894. It is reported to be in bad shape.

Vatican. The Pontifical palace (residence of the Pope) in Rome, lying in the Vatican City (Area : 108 acres) and the greatest palace in the world. Centre of the Roman Catholic Church, it houses the offices of the Papal government.

Victoria Memorial. An art gallery in Calcutta.

Vijay Ghat. The place on the bank of the Yamuna in Delhi where Lal Bahadur Shastri was cremated.

Wailing Wall. Located in the old city of Jerusalem, it is the Jews' most hallowed and historic site, a vestige of their ancient Temple and a bone of contention between the Arabs and the Jews. In olden times, Jews from all over the world used to hold mournful vigils before this sacred relic. Ever since the 1967 Arab-Israeli conflict, this relic as well as other portions of the old city have been in the possession of Israel.

Wall Street. A street in Manhattan, New York, famous for America's stock exchange market. It also designates American financial interests.

Westminster Abbey. One of the finest Gothic buildings in the world, it dates back to 13th century. The Abbey is the coronation place of the British Sovereigns and also contains the tombs of kings, statesmen and poets.

Whitehall. A street in London but popularly known as the seat of British Government offices and war memorial.

White House. The official residence of the President of America, in Washington. (N. D. A. 1963 ; I.T.I. 1966)

World Peace Pagoda (Viswa Shanti Stupa.) The 112-ft. high structure built atop Ratnagiri Hills near Rajgir in Bihar and inaugurated by President V.V. Giri in Oct. 1969. The project was executed under the auspices of Japan Buddha Sangha, Tokyo and Rajgir Buddha Vihar Society.

Yellowstone (National Park). World's biggest park in Wyoming, U.S.A., covering 3350 sq. miles of area, it was opened to the public in 1872. There are a number of lakes in the park but it is best known for its geysers and springs.

CHAPTER 7

BOOKS AND AUTHORS

*** Q. Name the authors of the following books :—**

(i) Himalayan Blunder (ii) Ambassador's Report (iii) Many Worlds (iv) Asian Drama (v) India from Curzon to Nehru and after (vi) Prison and Chocolate Cake (vii) A Passage to England (viii) The Guide (ix) Jobs for our Millions (x) The Sikhs Today.

(I.A.S., 1970)

Ans. (i) Brig. J.P. Dalvi (ii) Chester Bowles (iii) K.P.S. Menon (iv) Gunnar Myrdal (v) Durga Das (vi) Nayantara Sahgal (vii) Nirad C. Chaudhuri (viii) R.K. Narayan (ix) V.V. Giri (x) Khushwant Singh.

Q. Who wrote the following :—

(i) Meghdoot (ii) Untold Story (iii) Glimpses of World History (iv) Lady Chatterley's Lover (v) The Prince.

(Cent. Info. Ser., 1970)

Ans. (i) Kalidasa (ii) Lt. Gen. B.M. Kaul (iii) Jawaharlal Nehru (iv) D.H. Lawrence (v) N. Machiavelli.

Q. Name the authors of the following books :—

(i) Gulliver's Travels (ii) As You like It (iii) The Discovery of India (iv) The Vicar of Wakefield (v) Uttar Ram Charita (vi) Raghuvamsa (vii) The Post office (viii) Hindu View of life (ix) Indian War of Independence (x) Himalayan Blunder.

(N.D.A. May, 1970)

Ans. (i) Jonathan Swift (ii) Shakespeare (iii) Jawaharlal Nehru (iv) Oliver Goldsmith (v) Bhavabhuti (vi) Kalidasa (vii) Rabindranath Tagore (viii) Dr. S. Radhakrishnan (ix) V. D. Savarkar (x) Brig. J.P. Dalvi.

Q. (a) Name the authors of the following books and the language in which they are written :—

(i) Meghduta (ii) Baburnama (iii) Sursagar (iv) The Story of My Experiments with Truth (v) Don Quixote (vi) Les Miserables (vii) Fathers and Sons.

(b) For what branch of literature or art are the following noted ? Mention their nationality.

(i) Plato (ii) Horace (iii) Gibbon (iv) Beethoven (v) Raphael (vi) E.L. Lutyens (vii) J. Epstein (viii) Anna Pavlova.

(I.N. Dec., 1969)

Ans. (a) (i) Kalidasa; Sanskrit. (ii) Zahiruddin Babur : Persian (iii) Surdas; Hindi (iv) Mahatma Gandhi; English. (v) Cervantes; Spanish (vi) Victor Hugo; French (vii) Ivan S. Turgenev.

(b) (i) Philosophy; Greek (ii) Poetry; Roman (iii) History; British (iv) Music Composition; German (v) Painting; Italian (vi) Architecture; British (vii) Sculpture; British (viii) Dancing; Russian.

Q. Name the books in which the following characters appear :—

(i) David Copperfield (ii) Sancho Panza (iii) Dushyanta
(iv) Helen (v) Mephistopheles. (I.E. & S.S., 1970)

Ans. (i) David Copperfield (ii) Don Quixote (iii) Shakuntala
(iv) Iliad (v) Dr. Faustus.

Q. Name the authors of the following :—

(i) The Mysterious Universe (ii) Arthashastra (iii) Gopa
(iv) Das Kapital (v) Decline and Fall of the Roman Empire.
(Engg. Ser. Electronics, 1970)

Ans. (i) James Jeans (ii) Kautilya (iii) Rabindranath Tagore
(iv) Karl Marx (v) Edward Gibbon.

Q. Name the authors of the following :

(i) Paradise Lost (ii) Tempest (iii) Good Farth (iv) Mein Kampf
(v) Geet Govind (vi) Untold Story (vii) War and Peace (viii) Godan
(ix) Ramcharit Manas and (x) Glimpses of World History.
(I.M.A., May, 1970)

Ans. (i) John Milton (ii) William Shakespeare (iii) Pearl
S. Buck (iv) Adolf Hitler (v) Jayadeva (vi) Lt. Gen. B.M. Kaul
(vii) Leo Tolstoy (viii) Munshi Prem Chand (ix) Tulsidas (x)
Jawaharlal Nehru.

Q. Who wrote the following :

(i) Rubaiyat (ii) India Wins Freedom (iii) Gitanjali (iv)
Robinson Crusoe (v) Dr. Jekyll and Mr. Hyde. (Eng. Ser., 1970)

Ans. (i) Omar Khayyam (ii) Maulana Abul Kalam Azad
(iii) Rabindranath Tagore (iv) Daniel Defoe (v) R.L. Stevenson.

Q. Name the authors of the following books :

(i) Arthashastra (ii) Adi (Guru) Granth (iii) Ram Charit
Manas (iv) Autobiography of an Unknown Indian (v) Slender was
the Thread. (Indian Forest Service, 1970)

Ans. (i) Kautilya (ii) Sikh Gurus (iii) Tulsidas (iv) Nirad
C. Chaudhury (v) Lt. Gen. L.P. Sen.

Q. Name the authors of the following books:--

(i) Raghuvansam (ii) Gulistan (iii) Godan (iv) Gitanjali
(v) Glimpses of World History (vi) War and Peace (vii) Faust
(viii) Social Contract (ix) Last Days of Pompeii.
(I.N. July, 1970)

Ans. (i) Kalidas (ii) Sa'adi (iii) Munshi Prem Chand
(iv) Rabindranath Tagore (v) Jawaharlal Nehru (vi) Leo Tolstoy
(vii) Goethe (viii) Rousseau (ix) Bulwer Lytton.

Q. For what branch of literature or art are the following noted ? Mention their nationality.

(i) Homer (ii) Dante (iii) Hans Christian Andersen (iv)
Arnold Toynbee (v) Auguste Rodin (vi) Pablo Picasso (vii) W.A.
Mozart (viii) Henri Matisse (ix) Frank Lloyd Wright (x) Arthur
Conan Doyle. (I.N., July, 1970)

Ans. (i) Poetry ; Greek (ii) Poetry; Italian (iii) Short Story; Danish (iv) History ; British (v) Sculpture ; French (vi) Painting ; Spanish (vii) Music composition ; Austrian (viii) Painting and Sculpture ; French (ix) Architecture ; American (x) Novel ; British.

Q. Name the authors of the following :—

(i) Kadambari (ii) Treasure Island (iii) The Old Man and the Sea (iv) Man and Superman (v) The Untold Story. (*I.E.S., 1969*)

Ans. (i) Bana Bhatt (ii) R.L. Stevenson (iii) Ernest Hemingway (iv) G.B. Shaw (v) Lt. Gen. B.M. Kaul.

Q. Name the authors of the following books:—

(i) Akbar Namah (ii) The Untold Story (iii) A Tale of Two Cities (iv) Meghadoota, and (v) Three Musketeers.

(*Stenographers, 1969*)

Ans. (i) Abul Fazl (ii) Lt. Gen. B.M. Kaul (iii) Charles Dickens (iv) Kalidasa (v) Alexandre Dumas.

Q. Give the names of the authors of the following :—

(i) Gitanjali (ii) India Wins Freedom (iii) A Tale of Two Cities (iv) Discovery of India (v) Godan (vi) War and Peace (vii) Ramayana (viii) Mahabharat (ix) Meghadut, and (x) My Experiments with Truth. (*S.C.R.A., 1969*)

Ans. (i) Rabindranath Tagore (ii) Maulana Abul Kalam Azad (iii) Charles Dickens (iv) Jawaharlal Nehru (v) Munshi Prem Chand (vi) Leo Tolstoy (vii) Valmiki (viii) Ved Vyas (ix) Kalidasa, and (x) Mahatma Gandhi.

Q. Name the authors of the following :—

(i) Discovery of India (ii) Merchant of Venice (iii) Dragon's Teeth (iv) Gitanjali (v) Murder in the Cathedral.

(*Engg. Ser., 1969*)

Ans. (i) Jawaharlal Nehru (ii) Shakespeare (iii) Upton Sinclair (iv) Rabindranath Tagore (v) T.S. Eliot.

Q. Name the authors of the following books :—

(i) My Experiments with Truth (ii) Discovery of India (iii) Origin of Species (iv) Sri Ramayana Darsanam. (*Clks. Gde., 1969*)

Ans. (i) Mahatma Gandhi (ii) Jawaharlal Nehru (iii) Charles Darwin (iv) K.V. Puttappa.

Q. Name the authors of the following :—

(i) The Republic (ii) The Coolie (iii) Man and Superman (iv) Kidnapped (v) Post Office (vi) Mein Kampf (vii) Devdas (viii) The Tempest. (*I.M.A., Apr., 1969*)

Ans. (i) Plato (ii) Mulk Raj Anand (iii) G.B. Shaw (iv) R.L. Stevenson (v) Rabindranath Tagore (vi) Adolf Hitler (vii) Sarat Chandra Chatterji (viii) Shakespeare.

Q. Name the authors of the following and mention the language in which they wrote their books :—

(i) Misheeth (ii) The Origin of Species (iii) Mein Kampf (iv) Friends Not Masters (v) Anandamath (vi) Mother (vii) David

Copperfield (viii) Ramacharitamanas (ix) Good Earth, and (x) Man Eaters of Kumaon. (N.D.A., May, 1969)

Ans. (i) Umashankar Joshi ; Gujarati (ii) Charles Darwin ; English (iii) Adolf Hitler ; German (iv) (Former President of Pakistan) Mohd. Ayub Khan ; English (v) Bankam Chandra Chatterji ; Bengali (vi) Maxim Gorky ; Russian (vii) Charles Dickens ; English (viii) Tulsidas ; Hindi (ix) Pearl S. Buck ; English (x) Jim Corbett ; English.

Q. Name the authors of the following books and the language in which they are written : —

(i) Harshacharita (ii) Ain-i-Akbari (iii) Padmavat (iv) Godan (v) Wuthering Heights (vi) Crime and Punishment (vii) The Social Contract. (I.N., July, 1969)

Ans. (i) Bana Bhatt ; Sanskrit (ii) Abul Fazl ; Persian (iii) Malik Mohammed Jayasi ; Hindi (iv) Prem Chand ; Hindi (v) Emily Bronte ; English (vi) Dostoevsky ; Russian (vii) J.J. Rousseau ; French.

Q. From which country are the following published ?

(i) Al An'am (ii) Izvestia. (iii) The People's Daily. (iv) Le Temps (v) Statesman. (Indian Economic Service, 1968)

Ans. (i) U.A.R. (ii) U.S.S.R. (iii) Communist China. (iv) France (v) U.K.

FAMOUS AUTHORS AND THEIR WORKS

| Author | Works |
|-----------------------------------|---|
| Abul Fazl (1551-1602) | Courtier and chronicler of Akbar. Akbarnama and Ain-i-Akbari (Clks. Gde., 1968) |
| Addison (1672-1719) | A leading prose stylist of the early 18th century, his writings appeared in The Tatler and The Spectator . He also wrote The Campaign and Cato . |
| Aesop (6th Century B.C.) | Greek writer of fables. Some deny his existence altogether Aesop's Fables . |
| Anand, Mulk Raj (1905-) | A distinguished Indian writer in English— The Coolie , Two Leaves and A Bud , The Village , The Golden Breath . |
| Angell, Sir Norman (1874-1967) | British internationalist and a valiant fighter for peace. The Great Illusion . Received 1933 Nobel Peace Prize. |
| Aristophanes (450-385 B.C.) | Greek comic poet and dramatist — The Peace , Lysistrata and The Clouds . |
| Aristotle (384-322 B.C.) | Greek philosopher. A disciple of Plato, he was later a tutor to Alexander. His earlier works were lost. He wrote Politics and Poetics , also on logic, biology and physics. |
| Arnold, Matthew (1822-1888) | English poet and critic. Scholar Gypsy , Sohrab and Rustam and Rugby Chapel (Poetry) and On Translating Homer , Essays In Criticism (Critical works). |

- Asimov, Isaac Distinguished US scientist and writer--
Biographical Encyclopaedia of Science and Technology.
- Aurobindo Ghosh (1872-1951) Famous Indian saint, scholar and philosopher.
Life Divine, Essays On Gita.
- Austen, Jane (1775-1817) English novelist—**Sense And Sensibility, Pride And Prejudice, Mansfield Park, Emma.**
- Ayub Khan, Mohd. Former President of Pakistan--**Friends Not Masters**, a recently published political autobiography.
- Azad, Maulana On of the top modern prose writers of Urdu
Abul Kalam and a great stylist—**Ghubar-i-Khatir, India Wins Freedom** and a commentary on the Quran.
(1888-1958)
- Bachchan, Hari- Famous Hindi poet and writer ; has written
vansh Rai(b.1907) about 40 books including **Madhushala.**
- Balzac, Honore de French novelist. His style resembles Dicken's—
(1799-1850) **La Comedie Humaine, Eugenie Grandet** (Novels) and some masterly short stories.
- Bana Bhatt Famous Sanskrit scholar and poet laureate of
King Harsha Vardhana **Kadambari, Harshacharita.**
- Bandhopadhyaya, Famous Bengali writer **Ganadevata.**
Tarashankar
- Bardai, Chand A court-poet of Prithvi Raj Chauhan—**Prithvi Raj Raso**, a long biographical poem on Prithvi Raj.
- Barrie, Sir J.M. British novelist and playwright—**The Little Minister; Sentimental Tommy** (Novels) and
(1860-1937) **Quality Street, Peter Pan, What Every Woman Knows** (Plays).
- Beethoven, Ludwig- German composer, one of world's greatest.
von (1770-1827) Wrote **Fidelio** (opera) and some chamber music.
- Belloc, Jean Pierre English writer—**The Path To Rome, The Four Men, The Servile State.**
Hilaire (1870-1953)
- Bennett, Enoch English novelist and playwright—**Anna Of Arnold Five Towns, The Old Wives' Tales, Helen Of The High Hand.**
(1867-1931)
- Besant, Annie English theosophist, member Fabian Society
(1847-1933) who later made India her home—**Wake up India, Death And After, Reincarnation.**
- Bhartrihari A great writer in Sanskrit—**Niti Shataka.**
Bhattacharya, Famous Indian writer in English—**Shadow From Ladakh** which won 1967 Sahitya Akademi Award.
Bhabani.
- Bhavabhuti A great Sanskrit dramatist, second only to
(8th Century A.D.) Kalidasa ; wrote **Mahavir Charita, Malati Madhav** and **Uttar-Ram-Charita.**
- Blake, William English poet and engraver—**Song of Innocence, Songs of Experience.**
(1757-1827)

- Boccaccio, Giovanni Italian writer of fame—**Decameron** consisting of 100 stories.
(1313-1375)
- Bose, Sir J.C. Indian physicist noted for research in plant life. Inventor of crescograph—**Life And Movement In Plants**.
(1858-1937)
- Boswell, James Scottish novelist—**Life of Samuel Johnson**.
(1740-1795)
- Bowles, Chester US Ambassador to India (1951-53 and 1963-69)—**A View From New Delhi**.
- Bronte Charlotte English novelist—**Jane Eyre, The Professor, Shirley**.
(1816-1855)
- Bronte, Emily English novelist—**Wuthering Heights**.
(1818-1848)
- Browning, Robert English poet, full of thought, expressed in exquisite language—**Sordello, Pauline, Pippa Passes, Rabi Bin Ezra** (Poems), **Men and Women, Dramatis Personae** (Collection).
(1812-1889)
- Browning, Elizabeth Barrett English poetess and wife of Browning, the poet **Sonnet From The Portuguese, Aurora Leigh**.
(1806-1861)
- Buck, Pearl S. American novelist and a prolific writer. Recipient of 1938 Nobel Prize in Literature—**The Good Earth The Patriot**.
(1892-)
- Buddha, Gautama Founder of Buddhism—**Tripitaka** (Three Baskets). Buddha left no manuscripts but only oral teachings which were got written down by Ashoka.
(563-483 B.C.)
- Bunyan, John English writer—**Pilgrim's Progress, The Holy War**.
(1628-1688)
- Burke, Edmund Irish writer and statesman—**Reflections on the French Revolution, Thoughts on the Present Discontents**.
(1729-1797)
- Burns, Robert Scottish poet—**The Cotter's Saturday Night**.
(1759-1796)
- Burton, Richard British explorer and orientalist—**The Pilgrimage to Al-Medinah and Meccah, The Arabian Nights** (A translation).
Francis
(1821-1890)
- Burton, Robert English writer—**Anatomy of Melancholy**.
(1577-1640)
- Butler, Samuel English author—**The Way of All Flesh**.
(1835-1902)
- Byron, Lord English poet of the Romantic Era—**Childe Harold's Pilgrimage, Don Juan** (Don Juan is unfinished).
(1788-1824)
- Carlyle, Thomas Scottish historian and prose writer—**Heroes and Hero Worship, Past and Present, The French Revolution**.
(1795-1881)
- Carroll, Lewis Pen-name of Charles Lutwidge Dodgson. English writer and mathematician—**Alice in Wonderland, Alice Through the Looking Glass, The Hunting of the Snark**.
(1832-1898)

- Cervantes, Miguel de Spanish writer of novels, drama and poetry (1547-1616) —**Don Quixote** (Novel). (I.A.S. 1956)
- Chatterjee, Bankim Chandra (1838-94) The greatest Bengali novelist and a freedom fighter—**Anand Math** (including the immortal song **Bande Mataram**), **Kapal Kundala**, **Durgesh Nandini**, **Mrinalini**.
- Chattopadhyaya, Harindra Nath (1898-) Indian writer of poetry and dramas in English —**Grey Clouds and White Showers**, **Strange Journey**, **The Feast of Youth**.
- Chaucer, Geoffrey (1340-1400) English poet and father of the English poetry —**The Legend of Good Women**, **Troilus and Cresside**, **Canterbury Tales**.
- Chaudhuri, Nirad C. Indian writer of English fiction and recipient of Duff Cooper Memorial Prize— **Continent of Circe**, **Autobiography of An Unknown Indian**, **A Passage to England**.
- Chesterton, G.K. (1874-1936) English essayist, novelist, poet and dramatist— **The Napoleon of Nottinghill**, **The Flying Inn** (Novels) and monographs on Browning, Dickens and Shaw.
- Coleridge, Samuel Taylor (1772-1834) English poet, philosopher— **The Rime of The Ancient Mariner**, **Kubla Khan**, **Christabel** (Poetry), **Biographia Literaria** (A critical work).
- Corbett, Jim (1875-1955) English soldier and shikari, known for his hunting expeditions against man-eaters in the Terai jungles **Man Eaters of Kumaon**.
- Dante (1265-1321) Italian poet—**La Divina Commedia** (The Divine Comedy). He took 18 years to write it.
- Darwin, Charles Robert (1809-1882) English naturalist—**Origin of Species**, **Descent of Man**.
- Defoe, Daniel (1659-1731) English novelist and journalist —**Robinson Crusoe**, **Moll Flanders**.
- De Quincey (1785-1859) English writer of imaginative prose—**Confessions of an English Opium Eater**, **The English Mail Coach**.
- Dickens, Charles (1812-1870) English novelist— **The Pickwick Papers**, **Oliver Twist**, **A Tale of Two Cities**, **David Copperfield**, **Great Expectations**.
- Dinkar, Ramdhari S. (b. 1908) Famous Hindi poet and holder of Padma Bhushan— **Sanskriti Ke Char Adhyay** (1960 Sahitya Academy Award Winner).
- Donne, John (1573-1631) English divine and writer—**Essays in Divinity** (Prose), **Of The Progress of The Soul**, **Satires**, **Divine Poems** (Poetry).
- Dostoevsky, Feodor Mikhailovitch (1821-81) Russian novelist and a realist—**Crime and Punishment**, **The Brothers Karamazov**, **The Idiot**.

- Doyle, Sir Arthur Conan (1859-1930) English novelist -**The Memoirs of Sherlock Holmes, The Return of Sherlock Holmes, A Study in Scarlet** (All fictional detectives).
- Dryden, John (1631-1700) English poet and playwright **Absalom and Achitophel, Annus Mirabilis, The Ode For St. Cecilia's Day, Alexander's Feast** (all poetry) and **All For Love** (Drama).
- Dumas, Alexandre (1802-1870) French novelist **Three Musketeers, The Count of Monte Cristo**.
- Eliot, George (1819-1880) Pen-name of English novelist, Mary Ann Evans **Adam Bede, The Mill on the Floss, Silas Marner**.
- Eliot, T.S. (1888-1965) English poet, critic and playwright and recipient of 1948 Nobel Prize in Literature—**The Waste Land, Ash Wednesday** (Poetry) ; **Murder in the Cathedral, Family Reunion, The Cocktail Party** (Poetic dramas).
- Faulkner, William (1897-1962) American novelist and Nobel laureate (1949) - **The Sound and the Fury, Light in August, Absalom, Absalom**.
- Fielding Henry (1707-1754) English novelist **Joseph Andrews, Tom Jones, Jonathan Wild**.
- Firaq Gorakhpuri, R.S. (b. 1896) Celebrated Urdu poet and writer; received Sahitya Akademy Award in 1961 and Jnanpith Award for 1969 for his **Gul-e-Naghma**.
- Firdausi (940-1020) Persian poet of world fame; writer of 60,000-line history of Iran **Shahnama**.
- Fischer Louis (1897-1970) American novelist and writer—**Gandhi and Stalin, A Week with Gandhi**.
- Fitzgerald, Edward (1809-1883) English poet **The Rubaiyat of Omar Khayyam** (a translation).
- Flaubert, Gustave (1821-1880) French novelist **Madame Bovary**.
- Foster, E.M. (1879-1970) English novelist whose novels are noted for literary style and subtle irony **Where Angels Fear to Tread, The Longest Journey, A Passage to India**. He died on 7 June, 1970.
- France, Anatole (1844-1924) French Author, Nobel laureate (1921)—**Literary Life, Governor of Judea, Revolt of the Angels**.
- Franklin, Benjamin (1706-1790) American statesman, printer, scientist and writer -**Poor Richard's Almanack**.
- Freud, Sigmund (1856-1939) Austrian psychiatrist and founder of psycho-analysis—**Delusion and Dream, Three Contributions to the Theory of Sex**.
- Frost, Robert (1875-1963) American poet who had Nehru as one of his admirers—**A Boy's Will, West Running Brook, A Further Range**.

- Galbraith, John K.** A former U.S. Ambassador to India and the celebrated author of *The Affluent Society*, *Triumph* (Novel), *Ambassador's Journal*.
- Galsworthy, John** (1867-1933) English novelist and playwright—*Forsyte Saga* (Novel), *Silver Box*, *Strife*, *The Skin Game*, *Escape* (Plays). Awarded Nobel Prize in 1932.
- Gandhi, Mohandas Karamchand** (1869-1948) Indian nationalist, philosopher and a Mahatma—*My Experiments With Truth*, *Conquest of Self*, *The Way to Communal Harmony*.
- Gargi, Balwant** (1918-) Famous Punjabi dramatist. *Rang Manch*, *Loha Kut*, *Sail Pathar* and *Kesro*.
- Ghalib, Asad Ullah Khan** (1796-1869) Great Urdu poet and prose stylist—*Dewan-i-Ghalib*, and some letters.
- Gibbon, Edward** (1737-1794) English historian—*Decline and Fall of the Roman Empire*, *Essay on the Study of Literature*.
- Goethe, J.W.** (1749-1832) German poet of world fame —*Faust* (Poetry), *Wilhelm Meister's Lehrjahre* (Novel).
- Goldsmith, Oliver** (1728-1774) Irish writer—*The Vicar of Wakefield*, *The Traveller* (Novels), *The Deserted Village* (Poetry), *She Stoops to Conquer* (Play).
- Gorky, Maxim** (1868-1936) Russian writer—*Mother*, *The Lower Depths* (Novels), *My Childhood*, *Reminiscences*.
- Gray, Thomas** (1716-1771) English poet—*Elegy Written in a Country Churchyard*, *Progress of Poesy*.
- Gunther, John** (d. 1970) American writer —*Inside Asia*, *Inside Russia Today*, *Inside Europe*.
- Hafiz, Shams-ud-Din** (1320-1389) One of the greatest Persian poets—*Dewan-i-Hafiz*. (I.A.S., 1963)
- Hardy, Thomas** (1840-1921) English novelist and poet—*Far From the Madding Crowd*, *The Return of the Native*, *The Mayor of Casterbridge*, *Tess of the D'Urbervilles*, *Jude the Obscure*.
- Hawthorne, Nathaniel** (1804-1864) American writer—*The Scarlet Letter*, *Twice Told Stories*.
- Hazlitt, William** (1778-1839) English essayist, literary and dramatic critic — *Table Talks*, *The Plain Speakers*, *Lectures on the English Poets*, *The Spirit of the Age*.
- Hegel, G.W.F.** (1770-1831) German philosopher—*Science of Logic*, *Philosophy of Right*.
- Hemingway, Ernest** (1899-1961) American novelist—*A Farewell to Arms*, *For Whom the Bell Tolls*, *The Old Man and the Sea*. Won Nobel Prize for Literature in 1954.
- Hitler, Adolf** (1889-1945) German politician and Dictator (1933-45)—*Mein Kampf* (My Battle—an autobiography).

- Homer (700 B.C.) Greek epic poet—**Illiad, Odyssey**
- Hope, Anthony Pen-name of the English novelist Sir Anthony Hope Hawkins—**The Prisoner of Zenda.**
- Hugo, Victor Marie French writer and novelist—**Notre Dame de Paris, Les Miserables.**
- Huxley, Aldous English satirist and novelist -**Brave New World, Point Counter Point, Grey Eminence.**
- Ibsen, Henrik Norwegian writer and playwright **The Pillars of Society, A Doll's House, Ghosts.**
- Iqbal, Dr. Sir Mohd. Great Urdu and Persian poet. Wrote **Bang-i-Daraa, Bal-i-Jabril.**
- Irving, Washington American author—**A Life of Washington, Rip Van Winkle, The Legend of Sleepy Hollow.**
- Jai Shankar Prasad Important Hindi writer of novels, dramas and poetry—**Kamayani.**
- Johnson, Samuel English writer and lexicographer. **The Lives of the Poets, The Vanity of Human Wishes, Dictionary** (the first one of its kind).
- Jonson, Ben English dramatist and poet- **Every Man in His Humour, Volpone.**
- Joyce, James Irish writer— **Ulysses.**
- Kafka, Franz German novelist - **The Trail, The Castle.**
- Kalhana A Kashmiri historian **Rajatarangini** (History of Kashmir up to Tenth Century A.D.).
- Kalidasa The greatest Sanskrit dramatist, who lived in the court of Chandrgupta II. Called Shakespeare of the East -**Sakuntala, Raghu-vansa, Meghadoot, Kumar Sambhva.**
- Kant, Immanuel German philosopher **The Critique of Pure Reason, The Critique of Judgment.**
- Kaul, B.M. A retired Lt. Gen. of the Indian Army - **Untold Story.** (I.A.S., 1967)
- Kautilya Also known as Chanakya, one of the great diplomats of the world **Arthashastra.**
- Keats, John A great English Romantic poet - **Endymion, Hyperion, Odes, The Eve of St. Agnes.**
- Khushwant Singh Famous Indian writer in English—**History of the Sikhs, Train to Pakistan, The Sikhs Today.**
- Kipling, Rudyard English poet, nov. 'st, critic and Nobel laureate (1907)—**The Light That Failed, The Jungle Book, Kim, Gunga Din.**
- Krishan Chander One of the greatest writers of Urdu fiction, he was awarded Padma Bhushan in 1969 **Shikast and Teen Gunde.**
- Lamb, Charles Great English essayist and wit—**Essays of Elia, Tales From Shakespeare.**

- Lao Tzu Chinese founder of Taoism—**Tao Te Ching**.
- Laski, Harold J. English political scientist, economist and writer—**Grammar of Politics, The Dilemma of Our Time**.
(1893-1950)
- Lawrence, D.H. English novelist, poet and critic—**Lady Chatterley's Lover, The Plumed Serpent**.
(1885-1930)
- Lawrence, T.E. English soldier and explorer—**The Seven Pillars of Wisdom**.
(1888-1935)
- Longfellow, Henry American poet—**A Psalm of life, Excelsior, The Village Blacksmith** (short poems).
Wadsworth
(1807-1882)
- Macaulay, Lord T.B. English historian and writer—**Essays, History of England, The Lays of Ancient Rome**.
(1800-1859)
- Machiavelli, Niccolo Italian writer—**The Prince (Il Principe)**.
(1469-1527)
- Maithalisaran Gupta Hindi poet—**Saaket, Bharat Bharati**.
- Majumdar, R. C. Noted Indian Historian—**History and Culture of the Indian People, History of the Freedom Movement**.
- Manchester, William American writer—**Portrait of President and the Death of a President**.
- Marlowe, English dramatist—**Tamburlaine the Great, The Tragical History of Doctor Faustus, The Jew of Malta**.
Christopher
(1564-1593)
- Marx, Heinrich Karl German philosopher and economist who settled in London—**Das Kapital (Capital), Communist Manifesto** (with Frederick Engels).
(1818-1883)
- Masefield, John I. English poet laureate (1930-67)—**The Everlasting Mercy, The Widow in the Bye Street**.
(1878-1967)
- Maugham, William English novelist, short story writer and dramatist—**Of Human Bondage, The Razor's Edge, The Moon And Six Pence, The Constant Wife**.
Somerset
(1874-1965)
- Maupassant, Guy French novelist and short story writer—**A Life, Bel Ami (Novels), Necklace** (short story).
de (1850-93)
- Mayo, Katherine **Mother India** (Mahatma Gandhi called this book as "A sanitary inspector's report")
- Milton John English poet—**L' Allegro, Il Penseroso, Lycidas, Paradise Lost, Paradise Regained, Samson Agonistes**.
(1608-1674) (M. C., 1961)
- Moliere (1622-1673) French dramatist—**Le Misanthrope (The Misanthrope), Le Tartuffe (The Religious Hypocrite), L'Avare (The Miser)**.
- More, Sir Thomas English scholar and lawyer—**Utopia, History of Richard III**.
(1478-1535)
- Nabokov, Vladimir American novelist of Russian descent—**Lolita, the most controversial book after Lady Chatterley's Lover; Pale Fire**.

- Naidu, Sarojini** (1879-1949) Indian poet of English and a political leader **The Song of India, The Sceptred Flute, Bird of Time, Golden Threshold**
- Naipal, V. S.** A West Indian novelist **Area of Darkness** (A most damaging book about India).
- Nanak Singh** Father of " Punjabi novel **Chitta, Lahu, Kagta, Di Beri, Pwittar Papi**
- Narayan, R. K.** A South Indian writer of English fiction **Guide, The Man Eaters of Malgudi, Mr. Sampat**
- Nehru, Jawaharlal** (1889-1964) India's first Prime Minister and a great revolutionay. Equally a great writer **The Discovery of India, Glimpses of World History, A Bunch of Old Letters, Autobiography**
- Nietzsche F. W.** (1844-1900) German philosopher **Thus Spake Zarathustra, The Birth of Tragedy, Beyond Good And Evil**
- Nihala, Surya Kant Tripathi** Hindi poet **Juhar ki Kali, Tulsi ka Gyan Bodh**
- Omar Khayyam** Persian mathematician, astronomer and poet **Rubaivat**
- Orwell, George** (1903-1950) Pseudonym of Eric Blair **Nineteen Eighty Four, Animal Farm**
- Panini** Sanskrit grammarian of the Later Mauryan Age **Ashtadhyai**
- Pant, Sumitranandan** (1902-) Famous Hindi poet and Jnanpith Award winner (1964) **Vina, Jyotsna, Gunjan, Kala Aur Burha Chand, Chidambara**
- Pasternak Boris** (1890-1960) Russian poet and novelist and winner of Nobel Prize for Literature in 1958 **Doctor Zhivago** (Novel), **The Blind Bow** (Drama)
- Plato (427-347 B.C.)** Greek philosopher **Republic**
- Pope Alexander** (1688-1744) English poet and satirist **Essay on Man, Dunciad, Essay on Criticism, The Rape of The Lock**
- Prem Chand** Father of Hindi (Urdu) fiction **Godan, Kaya Kalap, Soz-i-Wattan**
- Priestley, J. B.** (1894-) English writer **The Good Companion** (Novel), **Laburnum Grove** (a Play)
- Puttappa, K. V.** Celebrated Kannada poet **Ramayana Darshanam**, the 1967-Jnanpith Prize winner
- Radhakrishnan, Dr. S. (b. 1888)** A Great Indian philosopher and writer **Hindu View of Life, Indian Philosophy, An Idealist View of Life, Kalki, Religion and Society**
- Rajagopalachari, C. (b. 1878)** Distinguished politician and a polished writer **Translation of Gita, Ramayana, Mahabharata.**

- Rolland, Romain (1866-1944) French writer—**Jean Christophe** and **Biography of Gandhi**. Nobel laureate (1915).
- Rousseau, Jean Jacques (1712-1778) French writer and philosopher—**La Confession** (Confessions), **Du Contract Social** (The Social Contract).
- Ruskin, John (1819-1900) English art critic and author **Modern Painters, Unto This Last, Seven Lamps of Architecture**.
- Russel, Bertrand (1872-1970) English mathematician, scientist and philosopher—**The A.B.C. of Relativity, Marriage and Morals, The Conquest of Happiness**.
- Saadi (1194-1282) Famous Persian poet **Gulistan, Bostan**.
- Sarkar, Sir J. N. Indian historian—**The History of Aurangzeb**.
- Sartre, Jean Paul (1905-) French philosopher and writer—**Being and Nothingness, Age of Reason, The Respectful Prostitute, The Flies, The Chips are Down**.
- Savarkar, V. D. (1883-1966) Indian writer and revolutionary—**Indian War of Independence**.
- Scott, Sir Walter (1771-1832) Scottish poet and novelist—**The Lady of the Lake, The Heart of Midlothian, Ivanhoe**.
- Sen, Lt. Gen. L. P. A retired General of the Indian Army—**Slender Was The Thread**.
- Shakespeare, William (1564-1616) World's greatest poet and dramatist **Romeo And Juliet, Midsummer Night's Dream, The Merchant of Venice, As You Like It, Hamlet, Othello, King Lear, Macbeth**. In all he wrote 37 plays, 2 long poems (**Venus and Adonis** and **The Rape of Lucrece**) and 154 sonnets.
- Shaw, G. B. (1856-1950) Irish dramatist and critic **Candida, Arms and Man, The Devil's Disciple, Caesar and Cleopatra, Man and Superman, The Doctor's Dilemma, Saint Joan, Pygmalion**.
- Shelley, P. B. (1792-1822) English poet—**Alastor, The Cenci, Prometheus Unbound, Ode to West Wind, To a Skylark**.
- Sheridan, R. B. B. (1751-1816) Irish dramatist and politician—**The Rivals, The School For Scandal**.
- Sophocles (496—406 B.C.) Greek tragic poet and dramatist—**Antigone, Oedipus Rex, Electra and Ajax**.
- Spenser, Edmund (1552 - 1599) English poet—**Faerie Queene**.
- Steinbeck, John (1902 - 68) American novelist and Nobel laureate (1962)—**Grapes of Wrath, Of Mice and Men, East of Eden**.
- Stevenson, R.L. (1850 - 1894) Scottish novelist and man of letters—**Treasure Island, Dr. Jekyll and Mr. Hyde, Kidnapped**.
- Stowe, H.B. (1811 - 1896) American (woman) novelist on social reforms and Negro life—**Uncle Tom's Cabin**.

- Swift, Jonathan (1667 - 1745) English author and satirist—**The Tale of a Tub, Gulliver's Travels.**
- Swinburne, A.C. (1837 - 1909) English poet and critic—**Atlanta in Calydon, Poems and Ballads, Songs Before Sunrise.**
- Tagore, Rabindranath (1861 - 1941) Indian poet and dramatist. Nobel laureate (1913)—**Gitanjali, Gora, The King of Dark Chamber, Post Office.**
- Tennyson, Alfred (1809 - 1892) English poet **In Memoriam, The Idylls of the King, The Lotus Eaters, The Lady of Shalott.**
- Thackeray, W.M. (1811 - 1863) English author of fame—**Vanity Fair, Henry Esmond.**
- Tolstoy, Count Leo (1828 - 1910) Russian author and mystic **War and Peace, Anna Karenina, Resurrection.**
- Toynbee, Arnold J. (1889 -) English Historian—**A Study of History** (in 10 volumes).
- Tulsidas (1532-1623) The renowned Hindi poet **Ram Charit-manas.**
- Valmiki Sanskrit Poet and a Rishi—**Ramayana.**
- Ved Vyas A Rishi—**Mahabharata.**
- Virgil (70-19 B.C.) Roman poet—**Aeneid, Eclogues.**
- Wallace, Lewis (1827-1905) American soldier, diplomat and novelist—**Ben Hur, A Tale of the Christ.**
- Waris Shah Great Punjabi poet—**Heer.**
- Wells, H.G. (1866 - 1946) English writer of science fiction and history—**The Time Machine, The Invisible Man, The War of the Worlds, Kipp's, Outline of History.**
- Whitman, Walt (er) (1819 - 1892) One of America's greatest poets—**Leaves of Grass, Drum Taps.**
- Wilde, Oscar (1854 - 1900) English poet and novelist **The Importance of Being Earnest, Lady Windermere's Fan, de Profundis.**
- Wordsworth, William (1770 - 1850) A great English poet **Lyrical Ballads, Ode to Duty, Ode on Intimations of Immortality, The Prelude, Tintern Abbey, Solitary Reaper.**
- Wodehouse, P.G. (1881-) English humorist, author of 80 novels—**The Inimitable Jeeves, Right Ho, Jeeves.**
- Woolf, Virginia (1882 - 1941) English novelist and essayist—**Mrs. Dalloway, To The Lighthouse, A Haunted House.**
- Wright, Richard (1908 - 1960) American Negro author—**Native Son, Black Boy.**
- Yeats, W.B. (1865 - 1939) Irish poet, dramatist, Nobel laureate (1923)—**The Land of Heart's Desire.**
- Zola, Emile (1840 - 1902) French novelist and exponent of naturalism—**Nana, Germinal, The Debacle.**
- Zweg, Stefan (1881 - 1942) Austrian author—**Marie Antoinette, Mary Stuart.**

IMPORTANT INDIAN AUTHORS

| | |
|-----------|---|
| Assamese | Hem Chandra Goswami, Madhavkandali (Poets); Hem Chander Barua (Novelist). |
| Bengali | Bibhuti Bhushan Bandopadhyaya, Bankim Chander Chatterji, R.C. Dutt, Sarat Chander Chatterji, Premendra Mitra (Novelists), Michael Madhusudan Dutt, Kazi Nazrul Islam, Rabindra Nath Tagore (Poets). |
| Gujarati | Mirabai, Narsing Mehta, Parmanand (Poets); Govardhanram, K.M. Munshi (Novelists). |
| Hindi | Tulsidas, Surdas, Behari, Kabir, Guru Nanak, Guru Gobind Singh, Jai Shanker Prasad, Maithilisharan Gupta (Poets). Harish Chandra, Munshi Prem Chand, Sudershan, Upendra Nath Ashk, Jamendra Kumar Jain (Novelists). |
| Kannada | Pampan, Ranna, B.M. Shrikanta, Purandra Das. |
| Malayalam | C.V. Raman Pillai, O. Chandu Menon Thakazhi, Siva Sankara Pillai (Novelists). Kumaran Asan, Vallathol, Narayana Menon (Poets). |
| Marathi | Hari Narayana Apte, Tukaram Mahay. |
| Oriya | Radha Nath Roy, Gopalabandhudas (Poets.) |
| Punjabi | The Sikh Gurus, Waris Shah, Damodar, Bhai Vir Singh, Dhan Ram Chatrak, Amrita Pritam, Prabhjot Kaur, Mohan Singh (Poets), Nanak Singh (Novelist). Bakwant Gargi (Dramatist). |
| Sanskrit | Bana Bhatt, Kalidas, Bhartrihari, Kalhana (Poets), Bhava Bhuti, Kalidas (Dramatists). |
| Sindhi | Shah-jo-Risolo, Sachal and Somi. |
| Tamil | Subramaniam Bharati (Poet). Ramalingam of Nanakkal. |
| Telugu | Tirupati, Lakshmi Narsimhan (Poets). |
| Urdu | Mirza Ghalib, Zauq, Hali, Iqbal, Josh Malihabadi, Jigar, Sahir (Poets). Rajinder Singh Bedi, Krishan Chander, Manto (Novelists). |

THE WORLD OF BOOKS

Aeneid (Virgil). The great Roman national epic. It was an attempt by Virgil to glorify the Roman people and to exalt the new emperor Augustus, in the person of his hero. It is the first of the great literary epics of Europe, the direct inspiration of Dante, and possibly the most influential book ever composed in Latin.

Aesop's Fables. Some writers deny the very existence of any person by the name of Aesop, supposed to be the author of

these simple tales. A fable of Aesop, is a brief anecdote designed to teach some moral which is invariably drawn from the common experiences of mankind and is therefore easy to understand. In the modern editions of the tales, oriental stories drawn from the Hindu story-books like the Panchatantra have also found place. It is said that these stories found their way to Europe during the Middle Ages.

Agni Vecna (*Nazrul Islam*). Translated as "Harp of Fire", it is a sizzling delineation in Bengali of a rebellious attitude towards all manners of human bondage and subjugation especially the one that ties human ingenuity to tradition, parochialism and mental slavery.

All Quiet on the Western Front (*E. M. Remarque*). Its scene set in World War I, the novel is a moving spectacle of the agonizing moments faced by a band of German soldiers who die on or desert the battle-field one by one. Utterly devoid of hope and cheer, their lives become "a waste land". The novel folds up with the death of Baumer (who tells the harrowing experiences in the first person) with the Army flashing a cryptic despatch: All quiet on the Western Front

Ambassador's Journal (*J.K. Galbraith*). Latest from Prof. Galbraith, American Ambassador to India (1960-63), the book is an account of his epoch-making three-year stay in India. This diary depicts, among other things, the events of the Chinese aggression against India in 1962 and the developments regarding Indo-American relations in the face of "Yellow Peril" from the North and East. The book raises many issues of controversial nature.

Animal Farm, The (*George Orwell*). It is a political satire on the follies of political behaviour and institutions of Communist Russia. The animals on a farm rise against their tyrannical master and take over the management themselves. Soon differences arise between them and ultimately pigs assume the leadership. The new leaders turn oppressive and the purge begins. Orwell's fling at Stalinism is most subtle and full of invective.

Anna Karenina (*Leo Tolstoy*). A novel written by Tolstoy, the great Russian novelist of the 19th century. It depicts the tragic love story of Anna and Vronsky who openly defy the established code of marriage. Beautiful and passionate Anna, married to an old man, deserts her husband for her young soldier lover. Ultimately she disintegrates under the pressure of social disapproval and commits suicide. The world of Anna Karenina is a slice of nineteenth century Russian life

Anand Math (*Bankim Chandra Chatterji*). The novel has its setting in the early period of British rule in India and depicts a patriotic tale of the revolt of the sanyasis against the Muslim forces of the East India Company. The famous song "Bande Mataram" occurs in this novel. It had a topical importance during the turbulent days following the partition of Bengal in 1905. This novel as well as the singing of Bande Mataram remained banned in Behgal for a long time. (I.A.S., 1959)

Apple Cart. (*G. B. Shaw*). It is a dramatic harangue on the demerits of democracy, which, due to the helplessness of the voters in general, ultimately degenerates into plutocracy. The story revolves round Proteus and the King but the allegory is aimed at the ruler and the ruled. Shaw always disapproved of the institution of political organisation and the corrupting influence of its propaganda.

Arabian Nights, The. World's most entertaining tales originally compiled in Arabic during the 8th century and later translated in many languages, they are stories of adventure and voyage. They include such tales as "Aladin and the Lamp," "Ali Baba and Forty Thieves" etc. The Tales are permeated with erotic flavour as well as devotional fervour bordering on fanaticism.

Arms and the Man (*G. B. Shaw*). The drama portrays a contrast between the romantic hero and the realistic soldier, represented respectively by Major Sergius (in love with Raina) who fights for success and glory and Captain Bluntschli who has joined the Army out of an unmotivated impulse. Raina realises that Sergius is a soldier and a lover only by accident and is, therefore, an unsuitable choice. Against him is Bluntschli—her cream-chocolate soldier—with no talk about glory or ambition but a limitless desire to live. She breaks her engagement with Sergius and accepts Bluntschli.

Arthashastra (*Kautilya*). This book was discovered in 1905 in South India. Combining theory and practice, the book lays down the fundamental principles of statecraft, concerned more with profit and expediency than with morality. It advocates only one form of government—absolute monarchy—and takes it for granted that the end justifies the means. Kautilya can be favourably compared with Machiavelli of the Renaissance Italy. But no one can deny that the work is an invaluable treatise dealing with ancient polity. (*I.A.S., 1966*)

Ain-i-Akbari and Akbar Nama (*Abul Fazl*) The two books give a graphic account of the political happenings of the reign of Akbar, his administration, his revenue systems, the life at the court and the usual intrigues. These books are the only authentic source of information about the Great Mughal's reign. Abul Fazl's accounts are steeped in literary flavour, almost classical.

Bhagwat Gita (*Rishi Ved Vyas*). Though an adjunct to the mighty story of Mahabharata, Bhagwat Gita is most important for its thought content. It contains Lord Krishna's advice to Arjuna who hesitated to slay his cousins and relatives at the battlefield. Krishna taught him the philosophy of action and urged him to fight the war of righteousness. "Action is thy duty" he told Arjuna, "and reward is no concern of thine". It is the most philosophical product of Indian thought and contains the essence of the ethical and social teachings of all times.

Blind Beauty, The (*Boris Pasternak*). Perhaps the last of Pasternak works, this play was smuggled out of Russia and published in Italy. Thematic interest in the play lies in the emancipation of serfdom in Russia in 1861.

Brothers Karmazov (*Dostoevsky*). It is the story of Fyodor Karmazov, a drunken sensualist and his three sons, Dimitri, Ivan, Alexey and his illegitimate son Smerdyakov. Fyodor's affair with a woman (simultaneously pursued by Dimitri) and his murder provide perfect backdrop. Dostoevsky turns the story into an allegory—faith versus atheism.

Canterbury Tales (*Chaucer*). A group of stories, mostly in verse, comprehensive and absorbing in framework and detail. Chaucer meets some 30 people on their way to pilgrimage who agree to relate four stories each. Instead of 120 stories that Chaucer's scheme calls for, only 20 complete Tales have survived. The Tales are a splendid example of originality and poetic craftsmanship. Couched in a genial humour and humanity, the poem is a universal human comedy.

Capital (*Das Kapital*) (*Karl Marx*). An attempt at marriage of philosophical materialism with dialectics. *Das Kapital* is a detailed analysis of contemporary society. The book lays bare the Marxian principles, e.g., the *economic interpretation of history* (economic change as basic to all social evolution), the *dialectics* (conflict between the old and the new), *class struggle* (being the greatest motive power of history) and *labour value theory* (exploitation of labour being the only source of profit). The contradictions of capitalism, according to Marx, will prove fatal for the system and give rise to socialism, which envisages communal ownership of productive and distributive resources of the nation, resulting in the formation of a communist society on the principle "from each according to his abilities to each according to his needs".

Chidambara (*Sumitranandan Pant*). A collection of Hindi poems which was awarded the Jnanpith Award for 1968.

Crime and Punishment (*Dostoevsky*). The subject of this psychological novel is moral redemption through suffering. The hero, Raskolnikov, commits a murder for money and tries to hide it. With a conscience, chiding and pricking, he gets disgusted with a life of perpetual lying, fear and alertness. Compared to him is the saintly Sonia, a prostitute, who knowingly leads an evil life to help others. This novel is indeed an essay in the inner life of a murderer and the psychological aspect of a crime.

David Copperfield (*Dickens*). The novel is the most important of his works with a strong autobiographical element. To the morbid reconstruction of his early life (in the novel, the life of David) as an apprentice at the wine-shop, followed by his employment as a typist and then as an author, he invests elements of humour and joviality and thereby blunts the edge of bitterness. Micawber, resembling his father in actual life, is one of the best characters created so far in world fiction.

Death of a President, The (*William Manchester*). A controversial book regarding the assassination of President John F. Kennedy. Mrs. Kennedy had objected to certain portions in the book relating to the former President's life and critical references to President Lyndon B. Johnson. (I.A.S. 1967)

The Decameron (*Boccaccio*). This consists of 100 stories supposed to have been told by ten persons (seven women and three men) in the beautiful garden of a country house during the plague in Florence in 1348. In the stories, love and sex go together and the highest love does not lead to renunciation or Platonism but to happy marriage. The lowest leads to an immoral escapade. But there are more innocent stories than the scandalous ones.

Dharma Shastra (*Manu*). It is the most important legal document in Sanskrit. The vast material, left by Manu and others, was given the present shape between 200 B.C. and 220 A.D. Manu envisages in this book a society based on rigid caste system. The Asrama Dharma or the famous four-fold division of life has been described in this book as a recognised religious custom.

Discovery of India (*Jawaharlal Nehru*). In this masterly treatise, Nehru forcefully presents the Indian historical scene down the Vedic Age in its proper political perspective. His narrative is impersonal though imaginative, without a touch of bitterness against anyone or anything that might have cost the country its liberty. He is all praise for such rulers as Ashoka, Akbar and Ranjit Singh in whose reign concerted efforts were made to forge political unity in spite of differences of religion and culture.

Divine Comedy, The (*Dante*). It is neither a comedy, as the name suggests, nor an epic as some have called it. It is in fact, a poem that depicts the progress of soul from grief to joy or from damnation to heavenly bliss. It describes an imaginary pilgrimage of the human soul to a purgatory where the sins of those who are ultimately to be saved are cleansed away. Dante sees the Trinity itself in Heaven and with this moment of illumination, the journey and the poem end.

Doctor Faustus, The Tragical History of (*Marlowe*). The drama depicts the legend of Faust, a German, who sold his soul for knowledge and power. Faust makes a contract with Mephistopheles, the devil, whereby the latter will be his slave for 24 years after which the situation will be reversed for eternity. For 24 years, Faust uses the extraordinary magic power for everything including calling back Helen of Troy for a romantic encounter. But on the last night, he waits in agony and terror until Mephistopheles comes and carries him off to hell. The excellence of dramatic treatment calls forth a string of images, almost ecstatic, such as the one when Faust faces Helen of Troy and says :

Was this the face that launch'd a thousand ships
And burnt the topless towers of Ilium ?

Doctor Zhivago (*Boris Pasternak*). Acclaimed in the West as the "first work of genius to come out of Russia since the Revolution" and compared with War and Peace for its vast panorama and abundance of detail, Doctor Zhivago is a profound description of love as well as critical appraisal of life in Communist Russia. The novel was suppressed in Russia but its appearance outside was the greatest publishing event. Boris Pasternak

was awarded Nobel Prize for this novel but he declined to accept it.

Don Quixote (*Cervantes*). It is an adventure story of Don Quixote, the idealistic dreamer, and his colleague, Sancho Paza. Don Quixote sets upon his adventure, makes himself a knight-errant and roams about the world in full armour righting every kind of wrong and exposing himself to peril. Thereby he earns the reputation as the undoer of injustice, the protector of the damsels, the terror of giants and the winner of battles.

Durgeshnandini (*Bankim Chandra Chatterjee*). This novel in Bengali features a Rajput hero and a Bengali heroine but the treatment of the episode is miles away from a fictional commonplace. Unable to resist the charm of this work, Tagore remarked that it took "the Bengali heart by storm."

1857 (*Dr. Sen*). After a detailed research into the causes and happenings of the Mutiny of 1857 (called by some as the First War of Independence), Dr. Sen is of the opinion that the happenings were only a localised mutiny, backed by some dispossessed zamindars, princes and Nawabs. None of the leading States joined the war, nor did all the Indian sepoy rise against the British. Punjab and South India remained indifferent. The trouble was localised only in Central India.

Endymion (*John Keats*). It is a series of adventures, the romantic history of a soul. It represents Keats's youthful effort towards a reconstruction of English poetry on Elizabethan lines in sympathy with romantic and natural schools of his time, and in reaction against the poetry of the 18th century.

Faerie Queene (*Spenser*). An unfinished allegorical epic, Faerie Queene has been described as one of world's most magnificent picture-books. He wrote this to "fashion a gentleman or a noble person in virtuous and gentle discipline". Spenser had planned a national epic to glorify England and Queen Elizabeth. He proposed to set forth, in twelve books, the twelve moral virtues represented by twelve knights of Arthur's court. His ambition was to rival Virgil. Unfortunately, only six of the twelve books could be completed.

Farewell to Arms (*Hemingway*). Like his other novels, this novel too is a study in disillusionment. Hemingway's characters are cynical, frustrated people who spend their time drinking, fishing, fighting and wenching not as a diversion but as a sort of mystical "masculine moral obligation". Here the main character, Lt. Henry, deserts his army post for the love of a nurse and escapes with her to Switzerland for a life of bliss. The romance, however, comes to a sudden end when the nurse dies during the delivery of the child.

Faust (*Goethe*). The subject matter of this work is no different from Marlowe's "The Tragical History of Doctor Faustus." However, Goethe invests this work with the breadth of vision and grandeur of poetic expression which were peculiar to him.

Friends Not Masters (*Ayub Khan*). Written by the former President of Pakistan, it is a personal account of his regime's performance in the domestic and international fields, especially Pakistan's fraternization with Communist China and U.S.S.R. without impairing her relationship with the U.S.A.

Germinal (*Emile Zola*). It is a realistic narrative of the trials and the tribulations of miners in France. The problem is the survival of those wretched creatures in face of the rise of impersonal corporate ownership and the introduction of machinery that displaces hand labour. Very few novels offer its scope of scene, wealth of detail, or make so vivid the personality or lives of so many individuals.

Ghosts (*Ibsen*). This play is an essay in hatred towards the contemporary society of Ibsen. To Ibsen, society is based on falsehood, hypocrisy and lies; it loves affectations rather than the revelations of truth. "It is a society, haunted by ghosts of tradition and custom too weak to break away from the past and unable to carry the weight of new ideas".

Gitagovinda (*Jayadeva*). Written in Sanskrit by the famous 12th century poet of Bengal, Jayadeva, this collection is a sequence of lyrics on the mythological Radha Krishna theme. However, the emphasis is on the human rather than the religious aspects of the mythology. The sensuous imagery of human passions is found mingled here with the mellowness of religious hymns.

Good Earth (*Pearl Buck*). This is a novel about the Chinese life. Buck traces the progress in the life of Wang Lung, a poor Chinese peasant, in the context of a drought followed by a severe famine. The author was awarded the Nobel Prize for this novel.

Grapes of Wrath, The (*John Steinbeck*). Portraying the trials and tribulations of the Joad family during the American depression, the novel raised a storm of controversy. It appeals to the affluent to treat the poor with common humanity. It was objected that the book preached hatred and class struggle and was denounced as obscene and repulsive.

The Guide (*R.K. Narayan*). The three-dimensional life of Raju—as a vagabond, a guide and a faked Sadhu—is the subject of this interesting novel. Raju's helplessness at the end when he has to make the supreme sacrifice, much against his wish, claims our sympathy. Narayan invests his narrative with incisive humour and vigour.

Gulliver's Travels (*Swift*). Gulliver's Travels has a double set of meaning—one for the children which is found in the facade of the adventures and the other for the mature for whom the disturbing satire lurks behind the facade of the explorer's tale. Thus Swift hits off a number of contemporary characters and events to produce a profound comment on human nature as it may be observed in all times and places.

Hamlet (*Shakespeare*). It is the world's most quoted drama with a hero who is the most discussed character in the world literature. The plot of the drama is simple and revolves round a

son avenging the murder of his father. The whole tragedy emanates from the passion and vitality of Hamlet, the hero, set against his brooding intellect resulting in failure to act. Thus he misses a number of chances to kill the usurping king which ultimately results in disaster for the hero himself.

Harshacharita (*Bana Bhatt*). It is a contemporary biography of Harsha Vardhana, the last Hindu Emperor of India, written by the king's friend and the court poet. It is an exaggerated account of the conquests and administration of Harsha and is more of an historical romance than a real history.

Himalayan Blunder (*Brig. J.P. Dalvi*). Brig. Dalvi was the Commander of the Brigade that bore the brunt of Chinese attack in NEFA in 1962. The book severely criticizes the Indian government and its leaders' complacency in face of the Chinese threat. He lays blame for Indian reverses on the door of Mr. Nehru, V.K. Krishna Menon and General B.M. Kaul.

Hyperion (*John Keats*). Written under the influence of Milton, Hyperion was to be an epic after the celebrated Paradise Lost. It narrates the overthrow of the old elemental Greek God by the new Olympian hierarchy. In it we watch the conflict of the world powers, the passing of an old order and the coming of a new one—the ruin and triumph of gods.

Iliad (*Homer*). Literally meaning "poem about Ilion", the Capital of Troy, this epic, constituting 24 books, deals with the events of the last year of the siege of Troy by the Greeks. It begins with the wrath of Achilles, who refuses to take any further part in the fighting. But when the Trojans nearly succeed in defeating the Greek, Achilles changes his mind, enters the field and puts the Trojans to rout.

India Wins Freedom (*Maulana Abul Kalam Azad*). It is an extremely interesting account of the freedom struggle from the pen of one who played a leading role in shaping the destiny of this country. The book is, at places, critical of the policies and attitudes of such leaders as Mahatma Gandhi, Nehru and Sardar Patel whom it holds responsible for the partition of the country. This autobiographical account was originally written in Urdu, later translated by Humayun Kabir in English. It was published after Maulana Azad's death.

In Memoriam (*Tennyson*). The poem is an elegy on Arthur Hallam, the dead friend of Alfred Tennyson. It is, in fact, a poem of the 19th century scepticism wherein thoughts on death, man's destiny, future of life and the purposes of the Creator, gradually lead up to the faith in his goodness.

Jataka (*attributed to Lord Buddha*). A collection of 547 tales about Buddha's earlier incarnation considered by Buddhists as autobiographical. Written in Pali, Jataka is the oldest and the most important collection of folk tales, fables, fairy tales, moral tales and maxims. Some of these tales occur in other collections like Panchatantra and even in the Greek collection of Aesop's Fables.

Kapalkundala (*Bankim Chandra Chatterjee*). Published in 1866, this novel in Bengali depicts the contemporary theme of *tantric* rites laid bare by a love episode which provides the main romantic interest but which always remains subservient to the gruesome background of tantrism.

Kim (*Rudyard Kipling*). It is the adventure story of Kim, an Anglo-Indian orphan boy leading a street existence in Lahore interrupted by spells of forced schooling. His road journey with a Tibetan lama, on a wandering mission in India in quest of 'River of the Arrow', is full of intimate details characteristic of Kipling's deep love and understanding for Indians but scorn for the British.

King Lear (*Shakespeare*). Pride, irrational self-will, filial ingratitude and clash of two generations are the stuff that goes into the making of this masterly dramatic creation. A king, in a fit of "madness in reason", dispossesses his truthful but idealistic daughter and, at the same time, confers all regal powers on the other two daughters who please him by their scheming flattery. Not long afterwards, the king comes to grief when the beneficiaries, on utilitarian grounds, reduce him to an outcast and subsequently turn him out of their realms into the wide world of suffering and storm. The main prop of his existence now is Cordelia, his abandoned daughter, who accepts him without ill-will. In the struggle that ensues, Cordelia lays down her life helping the king to retrieve his position.

Loona (*Shiv Kumar Batalvi*). This Punjabi verse play is about Loona, the queen who organizes an amorous trap for her step son Pooran, but, finding no response, turns against him and has him thrown into a well, his arms and legs severed. A sage restores him to health and initiates him into his ascetical order. However, truth is soon out, Loona is punished but Pooran refuses to return.

Madame Bovary (*Flaubert*). It is almost the first realistic attempt in the field of fiction. Emma Bovary rebels against the restraining hand of society and gets involved with her numerous lovers in search of a strange love-experience. Her final degradation brings not only her downfall but it also chokes her very life. The society's recoil is too strong to bear and Emma Bovary collapses under the weight of her own sins.

Madhyamitra Sutra (*Nagarjuna*). This book, written during the reign of Kanishka (2nd Century A.D.), stresses the fact that everything in the world exists in relation to something else. It is perhaps the first attempt to propound the theory or the philosophy of relativity.

Magic Mountain (*Thomas Mann*). The tale-frame of this novel is quite insignificant—the visit of a German youth to a cousin of his at a sanatorium which lasts for seven years instead of the scheduled three weeks. It is a dip into the timeless world of patients, who live in isolation and develop a different sense of values. The book that sets out to be a study of decay ends as a great "picture of human capacity for development". The hero

who is first fascinated with death ultimately returns to the responsibilities of life wiser by the experience gained.

Mahabharata. The Sanskrit epic depicting the great struggle between the Pandavas and the Kaurvas for the possession of the Ganges valley about 1000 B.C. Consisting of one lakh couplets, it is the longest poem that has ever been written. The main action – the war scenes – is interspersed with moral digressions, loosely related episodes, prayers and a variety of religious, ethical and romantic complications. The Bhagwat Gita also forms a part of the main episode.

Man and Superman (G.B. Shaw). The episodic interest in this drama revolves round Ann, who, driven by the Life Force, tricks Jack Tanner, the revolutionary and free thinker, into marriage. The female, to Shaw, is the stronger sex in the sense that she is strong willed, determined and sexually compelling. The drama is a full statement of Shaw's doctrine of Life Force, the spiritual power behind evolution, continually working upon the hearts of men and endeavouring to impel them towards a better and fuller life. Nature, he says, is ceaselessly experimenting with matter and the present human situation is only a stage in the evolutionary process. It may be followed by a stage of superman or the like if the man fails to serve.

Mein Kampf (My Battle) (Hitler). After the abortive coup of 1923, Hitler was sentenced to five years' imprisonment and was lodged at Landsberg fortress where he wrote this book. This is an autobiographical account in the context of Germany's destiny wherein Hitler has put forward various grandiose schemes for reform, some of which are of drastic kind. This book was considered as the Bible of Nazism.

Misanthrope (Moliere). Alceste, the leading character of the drama, is a misanthrope, hating mankind for the deceit and affectation which he sees universally practised and condoned. He believes in complete honesty in social relationship and attempts to apply this principle in his encounters with an amateur poet, some fashionable courtiers, and the young coquette of whom he is enamoured. The results are disastrous and amusing.

Miser, The (L'Avare) (Moliere). A comedy about Harpagon, the miser, who wishes to marry away his daughter Elise (who is simultaneously involved in a love affair with a person, smuggled in the house as a servant) to a middle-aged person. On the other hand, Harpagon loves a young woman to whom his son is also romantically attached. But soon he is to choose between letting the couples unite and losing his money box. Quite expectedly, his love for money triumphs over his amorous disposition.

Mudra Rakshasa (Vishakhadatta). It is a political drama with its scene set in the reign of Chandragupta Maurya. It depicts in clear detail and historical perspective the conspiracy that led to the overthrow of Nandas. The drama presents excellent character studies of Chanakya and Chandragupta Maurya.

My Experiments with Truth (M. K. Gandhi). It is an extremely readable autobiographical account. The chief merits of

the book are its simple, lucid narration and a disarming frankness.

New Delhi, A View From (*Chester Bowles*). A collection of speeches and writings of the former US Ambassador to India.

• **1984** (*George Orwell*). We find in this novel the world divided into Oceania, Eurasia and Eastasia, continually at loggerheads. Oceania is ruled by a post-revolution party whose slogans are : War is Peace, Freedom is Slavery and Ignorance is Strength. Every human action, including sex relationship, is regimented ; anti-sex leagues exist, hysteria of sex privation is transformed into war fever ; children spy on parents and practically all people are closely shadowed.

Nisheeth (*Umashankar Joshi*). A collection of 116 Gujarati poems which won Mr. Joshi the 1967 Jnanpith Award. Rich in poetic ardour and craftsmanship, the poems have a haunting quality about them.

Paradise Lost (*Milton*). A classical epic, its theme is the fall of man from Paradise on account of his sin. Adam and Eve commit the trifling error of eating the forbidden fruit in their weaker moment and are punished therefor out of all proportion of their crime. Milton's object in writing the poem was to emphasise the role of Christ as the Redeemer of mankind, and also to "justify the ways of God to men."

Panchatantra. A collection of fables in Sanskrit dating about 300-500 A.D., though individual fables had doubtless been current centuries before they were compiled in the present form. Translated into Pehlvi and Arabic in the 6th century A.D., they travelled to Europe and some of them found their way into the Aesop's collection. The tales are compressed, dramatic and humorous with animals as characters but having all the characteristics of men. They even study Vedas and indulge in religious polemics. They point out morals, both private and political.

Passage to India, A (*E. M. Forster*). This novel is a classic on the strange and tragic fact of history and life during the British rule in India. The author depicts with sympathy the complicated oriental reactions to the foreign rule and throws light on the conflict of temperament and tradition in the people's attitude towards the English.

Poetics (*Aristotle*). A treatise on literary principles by Aristotle, found in the form of lecture notes. It has laid the foundation of modern aesthetics and has been used by the scholars from the ancient to the modern times. The Poetics comprises a detailed discussion of poetry, epic and tragedy. Though considerably different from its classical character, yet the modern tragedy acknowledges the universality of Aristotle's fundamental concepts.

Politics (*Aristotle*). The Politics is a treatise on government. Man, he says, is a political animal and cannot live good life in isolation. Families form villages and villages a city state. The purpose of the state is to provide its citizens' means of good life

and it alone is able to do it. He commends aristocracy, the rule of the best (and not rule of the high-born as it is taken now) and condemns democracy, the rule of the poor (not of the people as is meant at present).

Portrait of A Lady (*Henry James*). It is the story of an American girl who has been given absolute freedom of choice and action and who makes a fundamental mistake only to suffer at the end. Of three suitors, she chooses the worst who hides his vulgarity under cover of European civilization. She braves all this with mental fortitude and understanding. The novel unfolds for us with great analytical and psychological power the inner life of Isabel.

Pride and Prejudice (*Jane Austen*). The novel is a comedy of manners with problems of good form rather than the interplay of external forces. Elizabeth and Darcy, the two principal characters, are beset with the "comic flaw"—Elizabeth with prejudice and Darcy with pride. Either flaw is at its worst a social failing and as soon as the main characters overcome the comic flaw they are united to live happily ever after.

Prince, The (*Machiavelli*). It is a loosely planned treatise on the science of statecraft, divided into 26 brief chapters. The work, as some say, is a handbook for the dictators and the tyrants. Machiavelli's aim is good government at any cost. It is based on the theory that ruler is justified in taking any measures, moral or immoral, to maintain supremacy. He advocates monarchy as the best form of government.

Prithviraj Raso (*Chand Bardai*). It is a biographical account of Prithviraj Chauhan, the King of Delhi and Ajmer (12th Century), written by his court poet, Chand Bardai.

Quran. Believed to have been compiled in and descended from Heaven through Angel Gabriel, the Quran is written in the most classical, purest Arabic and is accepted in every aspect of Muslim life as an authority. Divided in 114 *suras*, it enjoins prayer, almsgiving, fasting and "Hajj" to Mecca. It was got compiled in its present form in 650 A.D. by Abu Bakr, the first Caliph.

Rajatarangini (*Kalhana*). This is a very important document from the historical point of view, that throws light on the early history of Kashmir until the tenth century A.D.

Ramayana (*Valmiki*). A colossal epic of India, constituting about 24,000 couplets in seven books. There are indications that it is the work of many authors, though the core of the poem is certainly Valmiki's. Begun about 500 B.C., it appears to have reached its present form by about 200 A.D. The epic tells the familiar story of Rama and Sita, their self-imposed exile in the wilds of Central India, made interesting by the abduction of Sita by the Demon King Ravana and climaxed with the destruction of the Demon King, the recovery of Sita and the return of the conquerors to native Ayudhya.

Republic (*Plato*). Dramatic dialogue by Plato in which the chief speaker is Socrates in whose mouth he puts all his theories.

The dialogue is a treatise on the city state, the forms of government (timocracy, democracy, oligarchy and tyranny), administration of justice, division of labour and abolition of property. In the ideal republic, justice reigns supreme whereas the tyranny is the triumph of injustice. According to him, justice is attainable only in the social sphere wherein the individual's life finds true expression.

Return of the Native (*Thomas Hardy*). In this story of tragic love, Diggory Venn and Thomasin Yeobright are the characters, natural to the soil as against Eustacia Vye and the pleasure-loving Wildeve whose wildness of spirit appears at odds with the surroundings. Clyme Yeobright, essentially a lover of rural life, returns home after winding up his business in Paris and, as the ill luck would have it, marries Eustacia. Wildeve, in the meantime, acquires sudden wealth and entices Eustacia away from Clyme but soon both of them meet their end. While the un-naturals are thus eliminated, Diggory Venn and Thomasin Yeobright are united in marriage to carry on their natural existence with the timeless Egdon Heath.

Robinson Crusoe, Adventures of (*Daniel Defoe*). It is the story of Crusoe, who is ship-wrecked in a desert island and spends over 28 years on this lonely, uninhabited island living the wildest of life and making the best of circumstances in a lone battle against nature.

Romeo and Juliet (*Shakespeare*). A drama of young and romantic Italian love, suggestive of romantic comedy but actually ending in tragedy. It is a conflict of love and hate—love represented by Romeo and Juliet, and hatred exemplified in the parental attitude, subordinating love to social conventions. The lovers, unable to bear separation, plan suicide to meet in death. Their suicides form the most sympathetic portion of the drama, permeated with an overwhelming sense of tragedy.

Round the World in Eighty Days (*Jules Verne*). It is a fictional round-the-world travelogue by Phileas Fogg with most thrilling adventures set against scientific fantasy and fact and police chase. The journey through India, Hong Kong, Japan and the USA is studded with verisimilitude of details about the customs and habits of people which gives the novel an air of reality wherein lies its merit.

Saint Joan (*G.B. Shaw*). It is a romantic drama about a young French peasant girl of lowly origin, inspiring her elders and social betters. She leads them triumphantly against the country's enemies—the English—and throws them out of Orleans. Leading her country's armies from one success to another, she is herself betrayed at the end into hostile hands. She is dubbed a sorcerer and is burnt alive. It is a mighty satire—almost a rebuke—on the Church, the Englishmen as also the Frenchmen.

Shadow from Ladakh (*Bhabani Bhattacharya*). The Chinese attack of 1962 provides an excellent backdrop for this book. It tries to measure up the mood and strength of the Indian nation at the most critical period of history.

Shahnama (Firdausi). Running into 60,000 couplets, it is a poetic history of Persian rulers from 3600 B.C. to 651 A.D. No other book of comparable merit has ever been written in Persian. It is by all standards a supreme expression of Persian genius in the epic.

Shakuntala (Kalidas). The drama is about King Dushyanta's secret marriage with Shakuntala, daughter of Vishwamitra and Menaka, their separation and Shakuntala's failure to retrieve her husband who forgets her following the curse of Kasyapa. She is taken to heaven by Menaka where she gives birth to a boy. Later, the King pays a visit to Kasyapa and meets the boy, his own son, fighting with a lion. On learning that he is his own son, the lovers and the child are reunited.

Slender was the Thread (Lt. Gen. L.P. Sen). The book describes in vivid detail the heroic exploits of the 161 Indian Infantry Brigade, commanded by Gen. Sen (then a Brigadier). Fighting against heavy odds and without logistic support, Gen. Sen faced the situation with determination and ultimately his forces pushed the Pakistanis beyond Uri.

Social Contract, The (Rousseau). Published in 1762, the book is an exposition of Rousseau's theory of the 'Origin of State'. The real sovereign of the nation is people. No man has inherent right to govern unless the people themselves surrender their rights and agree to obey the rules that they themselves make. The society is, therefore, founded on a compact agreed between the people and their ruler or government.

Sound And Fury, The (William Faulkner). Greed, corruption, selfishness and incest—by-products of passion and violence—are the ingredients of this fictional masterpiece. Jason Compson has four children, Quentin, Jason, Benjy (boys) and Caddy (girl). Quentin and Caddy are incestuous; Benjy tries to rape a town girl and is castrated. Caddy is married off but Quentin commits suicide. Caddy's marriage breaks off and her daughter comes to live with the Compsons. When grown up, she too runs away with a boy. This and some other disasters complete the ruin of the family.

Triumph (John K. Galbraith). Written by the former US Ambassador to India and the world famous economist, the book analyses the turmoil in Latin America as a result of unrealistic U. S. foreign policies.

A Tale of Two Cities (Charles Dickens). The scene of this novel is set during the turbulent times of French Revolution. It is an immortal story of love and self-sacrifice—the story of Sydney Carton, the dissolute hero of this novel. His love for Lucy Manette prompts him to take her lover's place under the guillotine.

Ulysses (James Joyce). This 800-page novel depicts the story of a day in Dublin from early morning of June 16, 1904 untill about 2.30 the following morning. We are largely in the mind of Stephen, in and out of the stream of consciousness of Leopold Bloom, worried about his wife's infidelities or in the mind of Mrs. Bloom.

Joyce seems to prove that "life and time are continuous and the Homeric wanderings of Ulysses are ceaselessly being re-enacted in the modern unheroic times, though in a different manner".

Utopia (*Sir Thomas More*). The book pictures an ideal state where people live in great comfort and happiness. Things are owned communally, people work according to their capacity and are paid according to their need. Evils of poverty and misery do not exist. It is in fact an imaginary state which always exists in the minds of philosophers and visionaries. Utopia is now used for any political or social idea that is theoretically excellent but is not a practical possibility.

Vanity Fair (*W.M. Thackeray*). It is the story of a woman who had neither wealth nor birth yet she wanted to live like a lady. Young Becky Sharp is a study in instinctive trickery and inherent duplicity. By her marriage to Crawley, she scales the social ladder but indulges in endless romances and infidelities. Set against her in the plot is Amelia, tender, sentimental and an embodiment of virtue and grace. Her life is, however, an endless misery. The book is a conscious attempt at an unheroic novel, just a portrait of modern manners.

Volpone (*Ben Jonson*). Volpone is a Venetian, rich and childless. Surrounded by false friends with their eyes set on his gold he gives out that he is dying and by declaring each one separately as his heir, he persuades them to offer him presents and souvenirs. Volpone's thirst for gold is here shown as vehement as that of Marlowe's Jew of Malta; yet the enormity of fraud that he has organised is an even greater joy to him than his gold.

War and Peace (*Tolstoy*). Regarded by many as the greatest novel of all times, War and Peace defies classification—it is at once a historical, psychological, epic, political and panoramic novel. It is a true picture of Russian life as is seen at the time of Napoleon's invasion. The innumerable details that Tolstoy has introduced give the vast panorama an air of authenticity. The novel holds interest for every one. There is great deal for the military strategist to see and appreciate, for the historian to compare and comment, for litterateur to learn and evaluate and for the romantic to delight in. And it holds a lesson for each one of them. Napoleon was a failure as he attempted to make history whereas Kutuzov was great because he was the embodiment of the forces of necessity. Living is more important than love—seems to be the lesson for the lovers. Tolstoy appears to emphasise that Napoleons and empires, ideas and movements may come and go but human love, trust and everyday domestic life are the abiding values.

Waste Land (*T.S. Eliot*). This 403-line poem, the gloomiest piece of world literature, is an essay in sterility, disintegration, dryness and decay. This is the picture of the gloomy mood that prevailed immediately after the First World War. The poet borrows freely from myth and legend to enhance the effect. The poem anatomises our civilization and brings out the dreariness of our life and the mechanical pettiness of our living.

Wealth of Nations (*Adam Smith*). This masterpiece in its own field mapped out the ground and laid the way for the modern economics and human progress. While discussing the economic systems of Britain and other countries, Adam Smith propounded his theory of division of labour and the concept of free trade.

Wisden. The world-famous reference book on cricket.

IMPORTANT QUOTATIONS

1. Absence makes the heart grow fonder. **Thomas Hynes Bayly**.
2. Theirs not to make reply,
Theirs not to reason why,
Theirs but to do and die.
Tennyson—Charge of the Light Brigade.
3. Prosperity is a great teacher; adversity is a greater. Possession pampers the mind; privation trains and strengthens it.
Hazlitt.
4. Sweet are the uses of adversity;
Which, like the toad, ugly and venomous,
Wears yet a precious jewel in his head.
Shakespeare—As You Like It.
5. Age cannot wither her, nor custom stale,
Her infinite variety. **Shakespeare—Antony and Cleopatra.**
6. An old man is twice a child. **Shakespeare—Hamlet.**
7. When that the poor have cried, Caesar hath wept;
Ambition should be made of sterner stuff;
Yet Brutus says he was ambitious;
And Brutus is an honourable man.
Shakespeare—Julius Caesar.
8. An angry man opens his mouth and shuts up his eyes. **Cato.**
9. A thing of beauty is a joy for ever.
Keats—Endymion (P.C.S., L.I.C., 1964; I.F.S.E., 1960)
10. Beauty is truth, truth beauty. **Keats—Ode on a Grecian Urn.**
11. Some books are to be tasted, others to be swallowed, and some few to be chewed and digested. **Bacon—Of Studies.**
12. Neither a borrower nor a lender be;
For loan oft loses both itself and friend,
And borrowing dulls the edge of husbandry.
Shakespeare—Hamlet.
13. Man doth not live by bread alone. **Deuteronomy.**
14. Brevity is the soul of wit. **Shakespeare—Hamlet.**
15. Every man has his price. **Sir Robert Walpole.**
16. The old order changeth, yielding place to new.
Tennyson—The Passing of Arthur.
17. Oh, East is East and West is West and never the twain shall meet.
Till earth and sky stand presently at God's great judgment seat.
Kipling—Ballad of East and West.

18. The path of civilization is paved with tin cans.
Elbert—Hubbard.
19. Common sense is very uncommon. **Horace Greeley.**
20. Tell me thy company and I will tell thee what thou art.
Cervantes—Don Quixote.
21. Self-conquest is the greatest of victories. **Plato.**
22. I earn that I eat, get that I wear, owe no man hate, envy no man's happiness; glad of other men's good, content with my harm.
Shakespeare—As You Like It.
23. Conversation enriches the understanding, but solitude is the school of genius.
Gibbon.
24. Society prepares the crime; the criminal commits it. **Buckle.**
25. Reading makes a full man, conference a ready man, and writing an exact man. **Bacon.**
26. A cynic is a man who knows the price of everything, and the value of nothing. **Oscar Wilde** *Lady Windermere's Fan.*
27. Death lies on her, like an untimely frost
Upon the sweetest flower of all the field.
Shakespeare *Romeo and Juliet.*
28. You can fool some of the people all of the time, and all of the people some of the time, but you cannot fool all of the people all the time. **Lincoln.**
29. Democracy is the government of the people, by the people, for the people.
Lincoln—(I.R.S.E., 1960)
30. Ah love! could you and I with Him conspire
To grasp this sorry scheme of things entire
Would not we shatter it to bits -and then
Re-mould it nearer to the heart's desire!
Omar Khayyam—Rubaiyat.
31. The devil can cite Scripture for his purpose.
Shakespeare—Merchant of Venice.
32. The better of valour is discretion. **Shakespeare—Henry IV.**
33. We know accurately only when we know little; with knowledge doubt increases. **Goethe.**
34. We are such stuff
As dreams are made on, and our little life
Is rounded with a sleep. **Shakespeare—The Tempest.**
35. England expects every man to do his duty. **Nelson.**
36. The proof of the pudding is in the eating.
Cervantes—Don Quixote.
37. I have nothing to offer but blood, toil, tears and sweat.
Winston Churchill.
38. There is nothing so bad or so good that you will not find Englishmen doing it; but you will never find an Englishman in the wrong. He does everything on principle. He fights you on patriotic principles; he robs you on business principles; he enslaves you on imperial principles.
G.B. Shaw—The Man of Destiny.

39. To err is human, to forgive divine.
Pope—*An Essay on Criticism*.
40. The evil that men do lives after them,
The good is oft interred with their bones.
Shakespeare—*Julius Caesar*.
41. Was this face that launch'd a thousand ships,
And burnt the topless towers of Ilium?
Marlowe *Dr. Faustus*.
42. Fashion is a form of ugliness so intolerable that we have to
alter it every six months.
Oscar Wilde.
43. For fools rush in where angels fear to tread.
Pope *Essay on Criticism*.
44. Frailty thy name is woman.
Shakespeare—*Hamlet*.
45. 'Tis the sunset of life gives me mystical lore.
And coming events cast their shadows before. **Campbell**.
46. Genius is one per cent inspiration and ninety-nine per cent
perspiration. **Edison**.
47. Dust into dust, and under dust, to lie.
Sans will, sans song, sans singer, and—sans end.
Omar Khayyam—*Rubaiyat*.
48. Some are born great, some achieve greatness, and some have
greatness thrust upon 'em **Shakespeare** *Twelfth Night*.
49. Hope springs eternal in the human breast.
Pope *Essay on Man*.
50. Hypocrisy is the homage which vice renders to virtue.
La Rochefoucauld.
51. Idleness is the holiday of fools. **Chesterfield**.
52. This was the most unkindest cut of all,
For when the noble Caesar saw him stab,
Ingratitude, more strong than traitor's arm,
Quite vanquished him; then burst his mighty heart;
Shakespeare—*Julius Caesar*.
53. Jealousy is an awkward homage which inferiority renders to
merit. **Mme. De Puisieux**.
54. I am a Jew ; Hath not a Jew eyes? hath not a Jew hands,
organs, dimensions, senses, affections, passions?
Shakespeare—*Merchant of Venice*.
55. Reading maketh a full man; conference a ready man; and
writing an exact man. **Bacon**—*Essays*.
56. A little learning is a dangerous thing;
Drink deep, or taste not the Pierian spring.
Pope—*Essay on Criticism*.
57. Eternal vigilance is the price of liberty. **John Philpot Curran**.
58. Men have died from time to time, and worms have eaten
them,—but not for love. **Shakespeare**—*As You Like It*.
59. His life was gentle, and the elements
So mix'd in him that nature might stand up,
And say to all the world, This was a man!
Shakespeare—*Julius Caesar*.

- 60 Full many a gem of purest ray serene,
The dark unfathomed caves of ocean bear.
Gray—*Elegy in a Country Churchyard.*
(*I.T.I.*, 1968)
61. For the hand that rocks the cradle,
Is the hand that rules the world. **William Ross Wallace.**
62. 'Tis distance lends enchantment to the view,
And robes the mountain in its azure hue.
Campbell—*Pleasures of Hope.*
63. Nationalism is an infantile disease. It is the measles of mankind.
Albert Einstein.
64. Obedience alone gives the right to command. **Emerson.**
65. A book of Verses underneath the Bough,
A Jug of Wine a Loaf of Bread—and thou
Besides me singing in the wilderness—
Oh, Wilderness were Paradise enow.
Omar Khayyam—*Rubaiyat.*
66. Patriotism is the last refuge of a scoundrel. **Samuel Johnson.**
- 66a. With the exception of capitalism, there is nothing so revolting as revolution.
G.B. Shaw.
- 66b. You can never have a revolution in order to establish a democracy. You must have a democracy in order to have a revolution.
Chesterton.
67. Sermons in stones and good in every thing.
Shakespeare—*As You Like It.*
68. Stone walls do not a prison make,
Nor iron bars a cage,
Minds innocent and quiet take
That for an hermitage.
Lovelace.
69. Religion is the opium of the people. **Karl Marx.**
70. The mills of the gods grind slowly, but they grind exceedingly fine.
English Proverb.
71. They also serve who only stand and wait.
Milton—*On His Blindness.*
72. I am a man,
More sinn'd against than sinning. **Shakespeare**—*King Lear.*
73. And that inverted Bowl they call the Sky,
Whereunder crawling coop'd we live and die,
Lift not your hands to it for help—for it
As impotently moves as you or I.
Omar Khayyam—*Rubaiyat.*
74. The empty vessel makes the greatest sound.
Shakespeare—*Henry V.*
75. O, it is excellent
To have a giant's strength, but it is tyrannous to use it like a giant.
Shakespeare—*Measure For Measure.*
76. Nothing succeeds like success. **Dumas**—*Ange Pitou.*
77. Superstition is the religion of feeble minds. " , **Burke.**

78. Suspicion always haunts the guilty mind;
The thief doth fear each bush an officer.
Shakespeare *Henry VI.*
79. There is nothing either good or bad, but thinking makes it so.
Shakespeare *Hamlet.*
80. Yond Cassius has a lean and hungry look;
He thinks too much; such men are dangerous.
Shakespeare *Julius Caesar.*
81. 'Tis strange—but true; for truth is always strange, stranger,
than fiction. **Byron**—*Don Juan.*
82. All great truths began as blasphemies. **G.B. Shaw.**
83. Variety's the very spice of life.
That gives it all its flavour. **Cowper**—*The Task.*
84. I came, I saw, I conquered. (Veni, vidi, vici). **Julius Caesar.**
85. It is easier for a camel to go through the eye of a needle,
than for a rich man to enter into the kingdom of God.
Matthew, XIX, 24.
86. If winter comes, can spring be far behind?
Shelley *Ode to the West Wind.*
87. If wishes were horses, beggars might ride. **English Proverb.**
88. True wit is nature to advantage dress'd
What oft was thought, but ne'er so well expressed.
Pope *Essay on Criticism.*
89. All the world's a stage,
And all the men and women merely players.
Shakespeare—*As You Like It.*
90. This world is a comedy to those who think, a tragedy to
those who feel. **Horace Walpole.**
91. We think our fathers fools, so wise we grow;
Our wiser sons, no doubt, will think us so.
Pope *Essay on Criticism.*
92. Conference—"A gathering of important persons who singly
can do nothing, but together can decide that nothing can
be done." **Fred Allen.**
93. Critic—"A legless man who teaches running." **Pollock.**
94. Truth from his lips prevailed with double sway,
And fools, who came to scoff, remain'd to pray.
Goldsmith—*The Deserted Village (I.T.I., 1968)*

LITERARY TERMS

Aesthetics. Theory or philosophy of the or of the perception of the beautiful in nature or art. Greeks, particularly Plato and Aristotle, were its first great exponents. Later, Keats represented this philosophy.

Agnosticism. Derived from Greek, the word was first used by T.H. Huxley expressing the condition of not knowing. It is used in connection with such great matters as the existence of God or the future of life when the maximum we can say is that we do not know.

Allegory. Derived from Greek and meaning "to imply something else". It is a form of art which presents a second meaning beneath the surface meaning and in which the meaning is implied, not expressly stated. "Faerie Queene" and "Pilgrim's Progress" are the examples.

Alliteration. Use of words beginning with the same letter as Swinburne's "O sleepless heart and sombre soul unsleeping."

Alma Mater. Latin phrase meaning "kind mother". It is used for the university or college at which a person was educated.

Anagram. Transposition of letters or word to form new word or phrase. Thus "webs ran hard" is an anagram of Bernard Shaw.

Anticlimax. Descent contrasted with previous rise; it is elongation of plot, story or narrative after the climax is reached or addition of matter that weakens the effect.

Aphorism. Short, pithy maxim or a concise sentence embodying an important truth such as "Life is short, art is long".

Augustan. In literature, it connotes a period notable for its learning and consciously polished style. The Augustan Age of English literature is the early 18th Century when such literary giants as Johnson, Addison, Steele, Swift and Pope were writing.

Autobiography. A book of an account dealing with a person's life written by himself.

Ballad. A narrative poem, usually relating a single dramatic incident, adapted in a form suitable for singing. The ballads are classified as "folk" (without known authorship) and "literary" (those written by modern authors).

Ballade. A verse-form, as distinct from Ballad, developed and extensively written in France during the 14th and 15th centuries with varying rime scheme and number of lines.

Ballet. Combined performance of professional dancers, accompanied by music and spectacle. The form dates from the 15th Century.

Belles-letters. Studies and writings of the purely literary kind.

Bibliography. List of books of any author or authors or of any subject. It is also the art or practice of furnishing available authorities on any subject.

Biography. A book or an account that deals with a person's life.

Blank Verse. Poetry without rhyme. The form originated with the Italians and was introduced in English literature by the Earl of Surrey to be later used with effect by Shakespeare and Milton.

Blueprint. Photographic print representing final stage of engineering or other plans; detailed plan of work to be done.

Bluestocking. Term humorously denoting a literary woman.

Brain Drain. Exodus of intellectuals, technicians, specialists, experts and skilled workers from a country to another on account of lack of employment prospects in that country or for better prospects abroad.

Burlesque. Derived from Italian "burla" meaning mockery, it denotes comic art, literary and dramatic, in which something is made to appear ridiculous by exaggeration or grotesque parody.

Cant. Unreal use of words implying piety; peculiar language of a class, profession or sect; hypocrisy.

Caricature. Deliberately exaggerated or distorted description of a person to produce a ridiculous effect.

Cartoon. A picture or a caricature, usually topical and political, that is designed to provoke laughter.

Catastrophe. The disastrous end in a drama. It is the last stage in a tragedy.

Catechism. Term meaning instruction, religious or otherwise, by question and answer.

Classics. Works of the finest quality in art or literature.

Comedy. A drama which aims primarily to amuse and which ends happily. *Comedy of Humours* is a type of play, based upon the humour or trait of a particular individual. *Comedy of Manners* is a type or play which satirises the fashion and manners of a highly sophisticated society.

Courtly love. A code of love-making that was in vogue in the Middle Ages. It was to be unmarried, secret relationship, sensuous, illicit and adulterous.

Cubism. Form of art originated in the modern French School and generally depicted in the art of Picasso. It is characterised by depicting objects by a rectangular or geometrical treatment of forms.

Demagogue. Factitious orator; political agitator appealing to the prejudice of the masses.

Dirge. Funeral song or hymn.

Elegy. song of lamentation.

Epic. A long narrative poem in which the characters and actions are of heroic proportions. Homer's *Iliad* and *Odyssey* and Virgil's *Aeneid* are the greatest classical epics.

Epigram. Concise, pointed saying, often in verse; short poem ending in witty turn of thought.

Epilogue. Speech or short poem addressed to the audience by an actor at the end of the play; it is also the concluding part of a literary work.

Epitaph. Words inscribed on a tomb or monument.

Eulogy. Speech or writing in praise of a person.

Euphuism. Artificial or affected style of writing; high-flown style. It was introduced by Lyly in *Euphues, the Anatomy of Wit*.

Existentialism. A philosophical doctrine emphasising that the actual existence of the individual, rather than theories and abstractions about it, is the fundamental and important fact. Its central doctrine is that man is not predestined by God, society or by biology but he is what he makes of himself. He is contemptible if he lets outside forces to determine his personality or destiny. The doctrine lays emphasis on actions, solely motivated by will. It insists on the

concrete instead of the abstract, on existence rather than on idea of existence. Though obliquely advocated by Dostoievsky and Kafka in the past, the doctrine has received real development at the hands of Jean Paul Sartre, Simone de Beauvoir and their followers.

Fable. A short allegorical tale, conveying a moral, a principle or behaviour. Its characters are generally animals who have human traits. **Panchatantra** and **Aesop's Fables** are the examples.

Facsimile. Exact photographic copy especially of writing, printing or picture.

Farce. Light, comic theatrical piece in which characters or events are greatly exaggerated to produce broad, simple humour.

Frankenstein. A dangerous person, idea or a creed that destroys its creator. The reference is to the novel **Frankenstein** by Mrs. Shelley in which a medical student creates a monster from the limbs and organs of bodies collected from graves and mortuaries. The monster nearly kills its creator.

Free Verse. Same as **Blank Verse**.

Hieroglyphic. Conventionalised symbolic picture used chiefly to represent meanings that seem arbitrary and are seldom obvious. Such pictures were introduced by the ancient Egyptians.

Humanism. The renaissance movement in thought, characterised chiefly by a revolt against medieval religious authority and attitudes and a great spread of classical learning.

Hymn. Song of praise to God.

Hyperbole. Exaggerated statement not to be taken literally.

Idyll. A poem written in simple, graceful style and dealing with pastoral subjects.

Impressionism. A movement in painting, art and literature, originated in France, with freedom from all artistic tradition. It is an attempt to portray the truth of impression without analysis or synthesis and in the form as it is seen or felt subjectively.

Interlude. Pause between acts of play, generally filled with music entertainment.

Invective. Violent attack in words; abusive oratory.

Jargon. Mode of speech full of unfamiliar terms.

Jazz. American dance music and dance types of Negro origin, main elements of which appear to be indigenous to West African tribal music. With the rise of the Negro instrumentalists and the growth of big bands, jazz developed into **swing** and other styles. In its wider application, jazz includes styles sometimes lacking a stated pulsating rhythm.

Jingoism. Boisterous manner of expressing excessive patriotism. Jingo is a blustering patriot.

Kenning. A compound metaphor or descriptive phrase used in place of a simple noun, for example "swan road" for sea.

Lampoon. A virulent piece of satire, or attack of a somewhat vulgar character directed against an individual.

Lay. Short lyric or narrative poem meant to be sung.

Linotype. Machine (like a typewriter) for producing lines of words as substitute for type-setting by hand generally used in printing newspapers.

Lyric. Originally a song sung to the accompaniment of the lyre. Now it is a poem (or song) expressing writer's own thoughts or sentiments.

Maiden Speech. The first speech delivered by a person before an audience. (I.A.S., 1959)

Malapropism. Ludicrous misuse of word especially in mistake for one resembling it. The word is a derivative of (Mrs) Malaprop, a character in Sheridan's *Rivals*. (P.C.S., 1959)

Melodrama. A play which has a strong emotional appeal of a popular kind. It has a happy ending.

Melody. Musical arrangement of words; arrangement of words in such a manner as it produces sweet musical effect.

Metaphor. Figure of speech by which a name or descriptive term is employed to an object to which it is not literally applicable e.g., *a glaring error*.

Naturalism. Adherence to nature in art and literature and indifference to conventions and traditions.

Neology. New-coined words; coining or using of new words.

Nom de plume. Writer's borrowed name, title or initials under which he writes.

Obituary. Notice of death (specially in a newspaper); a brief biography of a deceased person.

Ode. A poem meant to be sung; a rhymed or unrhymed lyric generally in the form of an address dealing with a serious theme, e.g., *Ode to a Nightingale*, by John Keats.

Opera. Drama set to music; a music-dominated dramatic performance.

Orthography. Correct spelling; the art of correct spelling.

Panegyric. Laudatory discourse; a piece of poetry or narrative in praise of a person or event.

Parenthesis. Words, clause or sentence, inserted into a passage to which it is not grammatically essential and usually marked off by brackets, dashes or commas.

Parody. Feeble imitation in poetry or other forms of writing.

Philology. Science of languages.

Plagiarism. The art of taking and using another person's thoughts, writings or inventions as one's own. A plagiarist is one who does this.

Poet Laureate. A poet who receives stipend for writing poems on official or ceremonial occasions.

Pornography. Treatment of obscene subjects in literature. *Lolita* and *Lady Chatterley's Lover* are examples of such sexually inflammatory literature.

Prologue. A discourse or poem as a kind of introduction to a play.

Prosody. Science of versification.

Psychedelic art. Action paintings or expressionist paintings representing irrational outlines or characters in bold colours and which are said to impart enlarged and distended but a pleasant perception under the influence of such hallucinatory drugs as L.S.D.

Realism. An artistic creed which holds that the purpose of art is to depict life with complete objective honesty—to show things as they are.

Renaissance. Revival of ancient Greek art and letters under the influence of classical models. It took place during the 15th century when the Greek scholars were ousted from Constantinople and the literature that they brought to Italy with them caught the fancy of the people; the newly discovered printing press reproduced this literature for mass consumption.

Rhapsody. An extravagant and high-flown utterance of composition of emotional nature.

Rhetoric. Language designed to persuade or impress; the art of persuasive or impressive speaking or writing.

Romance. Literature consisting of scenes and incidents remote from everyday life. Romanticism is the name used for a free and imaginative style in literature and art.

Royalty. The part of sale proceeds of a book, picture or other form of art that is given to the author.

Satire. A form of literature whose immediate aim is to ridicule or rebuke someone or something. Satire is generally used to reform the society by exposing its lapses and follies.

Sculpture. Art of forming representations of objects by chiselling stone, carving wood, modelling clay, casting metal or similar processes. One of the oldest and most universal arts, it satisfies artist's will to create and also offers him a medium of expression for his imaginary figures.

Simile. A figure of speech in which an object is explicitly compared to another object ostensibly for ornament only, for example "My love is like a red, red rose".

Sonnet. A poem of 14 lines in definite rhyme scheme. Essence of sonnet is unity of thought and idea.

Spoonerism. Accidental but ludicrous transposition of initial letters of two or more words such as "Howdhary Chari Ram" for "Chowdhary Hari Ram". (P.C.S., 1959)

Stanza. Group of four or more rhymed lines; metrical division of a poem.

Symposium. In ancient Greece, an after-dinner get-together; now it denotes philosophical or literary discussion or contributions on a fixed subject by various authors of different points of view.

Yellow Journalism. Sensational reporting indulged in by some newspapers with chauvinistic tendencies. The term was originally coined for the US newspapers that urged war with Spain in 1898.

CHAPTER 8

GENERAL TERMINOLOGY

Q. What are the following : —

- (i) Interpol (ii) Microdot (iii) Virus (iv) Mercator projection
(v) Continental shelf. (J.A.S., 1970)

Ans. (i) It is the abbreviated form of International Criminal Police Organization, a body that offers cooperation to its 90 affiliated countries in their fight against international crime. Its headquarters is at Paris. (ii) It is a photograph reduced to the size of a dot or a very small spot. (iii) A disease-producing agent, visible only with electronic microscope, parasitic in plants and animals. They are unable to multiply outside the living cell. (iv) A type of cylindrical projection, used for maps of the world and first published in 1569. It is named after the famed geographer Gerardus Mercator (1512-94). (v) See page 143.

Q Write a brief note of about 100 words on the following topics :

- (i) Apartheid (ii) Indian National Flag. (Cent. Info. Ser. 1970)

Ans. (i) Apartheid is an Afrikaans word meaning "apartness" or the state of remaining separate. It represents the regressive political creed of racial segregation, advocated and practised in South Africa by the country's successive governments. The basic tenet of this policy, which governs relations between the country's 3 million whites and 12 million coloureds, provides for complete domination of state and society by the whites, driving the coloureds to a state of servitude, and reservation of industrial and service occupations exclusively for white workers. Marriage between the whites and the non-whites, as also sexual intercourse between them, is illegal and the right to vote is denied to the non-whites. All Africans have to seek permission to enter or to remain in the urban areas. A small degree of political and economic freedom is allowed to the Africans only in the "Bantu Homelands".

(ii) Adopted by the Constituent Assembly of India on 22 July, 1947, the National Flag is a horizontal tricolour of deep saffron (Kesari), white and dark green in equal proportion. In the centre of the white band is the Asoka wheel (chakra) in navy blue to represent the *Charkha*. Dipping of the flag to any person or thing or its use for the purpose of trade, business, calling or profession or in the title of any patent etc. without the permission of the Central Government is an offence. According to Dr. Radhakrishnan, the colours in the National Flag represent certain essential tenets of Indian culture and philosophy—saffron for sacrifice and renunciation, white for truth and purity and green for growth.

Q. What/who are the following ?

- (i) Al Fatah (ii) Naxalites (iii) Viet Cong (iv) KANU
(v) Biafra. (Indian Economic Service, 1970)

Ans. (i) It is the terrorist organization of the Palestinian Arabs having bases along the Arab-Israeli borders in Jordan, Syria and Lebanon from where are directed its armed commando raids into Israel and Israeli-occupied Arab territories. These bases have been the targets of Israel's retaliatory air and ground attacks. Al Fatah's supreme leader Yasar Araafat is extremely popular among the Arab masses. The organization has toppled many governments in Jordan. (ii) Naxalites are the ultra radical political elements (calling themselves Leninist-Marxist) who believe in, preach and practise the Naxalbari type of terrorist uprising, grabbing of land and paralysation of established order—closely after the teachings of Mao Tse-tung. Of late, these elements have been active in West Bengal and some other States. (iii) They are the combat wing of the South Vietnamese National Liberation Front which has since formed a parallel government somewhere in South Vietnam. Viet Cong have extensive bases in South Vietnam, Cambodia and Laos from where they have been operating since 1960 against the South Vietnamese government. (iv) It is the abbreviation of Kenya African National Union, the ruling political party of Kenya, formed in 1960. (v) It was the name given to the breakaway Eastern Region of Nigeria (Africa) after the declaration of its independence under Lt. Col. Odumegwu Ojukwu in 1967. After the collapse of Biafran resistance in January, 1970 the area was retrieved by the Nigerian Federal Government. Ojukwu had earlier fled the country.

Q. (a) Explain the following terms :

- (i) Blackmail (ii) floor crossing (iii) adult franchise (iv) mid-term poll (v) estate duty (vi) gherao (vii) privy purses.

(b) What do you understand by the following :

- (i) The Green Revolution (ii) slum clearance (iii) buffer stocks, and (iv) pilot project. (N.D.A., May, 1970)

Ans. (a) (i) In the past, it was the tribute exacted by freebooters for protection and immunity. In present times, it means an act of demanding payment for not revealing unpleasant facts or discreditable secrets. (ii) See under 'Historical, Political etc. Terms'. (iii) The right to vote for all adults. In enlightened societies and in all democratic countries, adult franchise is basic to the parliamentary rule. (iv) It is the holding of elections before the completion of the normal term, prescribed by law for an elected body. In India, mid-term polls were held in 1969. (v) See under 'Economic Terms' (vi) It is the coercive technique recently evolved by the Indian labour leaders. The workers encircle the place of residence or work of managerial staff and refuse to allow the normal functioning of the work or the ingress or egress of officials till their demands are accepted by the management. (vii) See under 'Political Terms'.

(b) (i), Breakthrough in agricultural production. It is characterized by the acceptance of new production values, new

agrarian strategy and the farmers' responsiveness to improved farming techniques. (ii) Government or private effort at getting some areas cleared of the congested, unhygienic and dilapidated living tenements, inhabited by the poor. (iii) Goods kept in reserve to meet the demand till the availability of more quantities of the same goods. These stocks can also serve as a cushion against rising prices. (iv) It is the preliminary experimental trial of a scheme on a small scale. This is done to test the economic and technical viability of a project, planned to be launched later.

Q. What do the following measure ?

(i) Bushel (ii) Fathom (iii) Gallon (iv) Hogshead (v) Ream.
(*Asstt. Gdc. 1969*)

Ans. (i) Capacity (8 gallons) of corn, fruit. (ii) Depth of water. (iii) Capacity of liquids. (iv) Capacity of liquids (52½ imperial gallons). (v) Paper.

Q. Explain the following :

(i) What is a nautical mile? (ii) How many legs has a spider? (iii) What is a light year? (iv) Who was the first man to land on the moon? (v) Who was the first to reach the North Pole by over-land journey? (vi) Why do you hear the roar of a thunder after you see the accompanying flash? (vii) What is cellulose, and how is it obtained? (viii) What is meant by placing in quarantine, why is it necessary?
(*I.N., Dec., 1969*)

Ans. (i) It is one minute of great circle of earth, fixed by British Admiralty at 6,080 feet. (ii) Six. (iii) The distance that light travels in one year and which comes to 6,000,000 million miles. (iv) Neil Armstrong. (v) Robert Peary (in 1909). (vi) Because light travels much faster than the sound. (vii) It is the essential constituent of the wall membrane of all vegetable cells and, therefore, the structural basis of the plant world. It is found in a pure form in the fibre of cotton, linen and hemp. It is, therefore, obtained from plants. (viii) It means isolation of persons who have been in contact with some communicable disease, the period of isolation covering at least the longest incubation period of the disease. It is a preventive measure against the spreading of a communicable disease.

Q. What are the following ?

(i) Tupik (ii) Hydroponics (iii) Auroville (iv) Hottentots (v) Cetopaxi.
(*Lugg. Ser. Exam., 1969*)

Ans. (i) It is the name given to the skin-tent, used by the Eskimos. (ii) Cultivation of plants without the use of soil and by the use of solutions of those mineral salts which a plant normally extracts from the soil. (iii) Name of the international township near Pondicherry, being built by the Aurobindo Ashram in collaboration with UNESCO. (iv) People of South and South West Africa numbering about 20,000 and living into the interior by farming and cattle-raising. (v) It is the active volcano, 19,344 feet high, in North Central Ecuador.

Q. Write just two sentences on each of the following :

- (i) D.D.T. (ii) D.M.K. (iii) Soil erosion (iv) Kharif crops (v) L.S.D. (Indian Forest Service, 1970)

Ans. (i) It is the abbreviated form of dichloro-diphenyle-trichloroethane, the most effective insecticide. It has a long lasting residual effect. (ii) It stands for Dravida Munnetra Kazhagam, the present ruling party of Tamil Nadu. Formed by late Mr. Annadurai, it is known for its opposition to the teaching of Hindi in the South and also for its demand of autonomy to the States. (iii) It is wearing away and loss of the topsoil mainly by the action of running water, rains and winds. It may be *sheet erosion*, *gully erosion* or *wind erosion*. (iv) It is the collective name for such crops as rice, jowar, bajra, maize, cotton, sugarcane, sesamum, groundnut etc. Sown slightly before or during the rainy season, most of these are harvested by October. (v) It stands for d-lysergic acid diethylamide and is the most powerful hallucinatory drug. Its use produces developmental malformations and chromosomal damages resulting in a high rate of genetic damage among infants.

Q. Distinguish between the following (Not more than 40 words each) :—

- (i) Mortar and concrete (ii) Asteroids and comets (iii) Customs duty and excise duty (iv) Warp and weft (v) Diamond and ruby. (I.A.S., 1969)

Ans. (i) Mortar is a mixture of lime, sand and water. Concrete is a mixture of stone, sand, cement and water. Both are used as building material. (ii) An asteroid is a minor planet revolving round the sun. Most of such bodies lie between Mars and Jupiter. Comets are larger heavenly bodies, revolving round the sun and consisting of a hazy gaseous cloud with a brighter nucleus and a fainter tail. (iii) Customs duty is a tax imposed by a country on imports or exports. Excise duty is a tax levied on goods manufactured and consumed within the country. (iv) Warp is the yarn threads which are stretched lengthwise in a loom. Weft is the yarn threads woven into warp breadthwise to make cloth. (v) Diamond is natural crystalline carbon, colourless when pure, its colours attributable to impurities. Ruby is a transparent, red variety of corundum owing its colour to traces of chromium. It comes next in value to diamond.

Q. Explain the following terms (One sentence each) :

- (i) Buyer's market (ii) price index (iii) black money (iv) need-based wages and (v) wealth tax. (I.E.S., 1969)

Ans. (i) An economic phenomenon wherein more goods are available than demanded and the buyers can thus dictate the price of goods. (ii) An elaborate statistical method of indicating the relative level of prices at a particular date as compared with the base year. (iii) Money, earned through business or profession, which has not been declared or accounted for for purposes of assessment of income and other taxes. (iv) Wages based on the principle of

providing for the essential needs of the workers. (v) It is a tax on the possession of any kind of wealth beyond a specified limit.

Q. (a) Write short notes on the following (2 to 4 lines each):

(i) Basic education (ii) socialistic pattern of society (iii) Sarvodaya (iv) death duty, and (v) private sector.

(b) Describe the following (Not more than 4 lines each) :—

(i) Motel (ii) Scotland Yard (iii) Nautical Mile (iv) Plimsoll Line, and (v) Pyramids. (*Stenographers, 1969*)

Ans. (i) It is the education imparted through the child's mother tongue which is also the most important language. The instruction is, in addition, woven round some art or handicraft. (ii) A political system based on socialistic principles characterizing absence of economic exploitation of the poor and rejection of the primacy of capitalism. Under it, the gains of labour are distributed equitably. (iii) Sarvodaya is a Gujarati word meaning "the greatest good of all". In the Gandhian philosophy, a satyagrahi is to strive for this even at the greatest sacrifice. (iv) and (v) See under 'Economic Terms'.

(b) (i) A hotel or furnished cabins by the roadside where motorists may stay for the night. (ii) It is the headquarters of the Metropolitan Police in London. The Yard is the principal crime investigating agency of Britain. (iii) It is equal to 6082.66 feet, practically 1 minute of latitude. (iv) It is the compulsory load line on the ships, named after Samuel Plimsoll, an English reformer, who fought for and secured legislation to limit loading of the ships. (v) Ancient most monuments in Egypt (UAR). Built about 3000 B.C. during the 4th Dynasty, they are square in plan with triangular sides. Each pyramid contains mummified body of a king.

Q. With what are the following associated ?

(i) Black arm-band (ii) Dove (iii) Red light (iv) Swastika (v) Two bones crossing each other diagonally with a skull in the upper quadrant (vi) Wheel (*Chakra*). (*I.M.A., Apr., 1969*)

Ans. (i) Mourning or protest (ii) international peace (iii) movement of traffic barred (iv) Emblem of Nazi Germany (v) Danger (to life) (vi) National Emblem of India.

Q. What do you understand by the following ?

(i) Colonial rule (ii) Concentration camp (iii) A secular State (iv) An open door policy (v) Curfew orders. (*I.M.A. Apr., 1969*)

Ans. (i) Generally oppressive rule by a big country over a newly acquired country which is fully or partly subject to the former State. (ii) See page 73. (iii) A State which professes no official religion yet is tolerant towards and works for the promotion of all religions and faiths. (iv) Policy of equal commercial and industrial rights for all nations. (v) Order of prohibition of movement of men and vehicles and closure of all business and institutions as a precautionary measure against outbreak or spreading of violence or lawlessness.

Q. What do the following signify ?

(i) Black flag (ii) Flag flown at half mast (iii) John Bull ((iv) Uncle Sam. (N.D.A., May, 1969)

Ans. (i) protest (ii) official mourning (iii) England or an Englishman (iv) America or an American.

HISTORICAL, POLITICAL, CONSTITUTIONAL AND DIPLOMATIC TERMS

Abdication. Formal renunciation of crown, power or office by a sovereign or a ruler.

Adjournment Motion. A motion moved by a member in the legislature to adjourn consideration of the business in hand and instead discuss a matter of urgent public importance of which he simultaneously gives a notice.

Agent provocateur. A person employed and smuggled into the territory of the adversary to organise subversion while outwardly posing as an adherent ; it also relates to a person employed to detect suspected offenders by tempting them to overt action.

Allegiance. Loyalty or duty of a subject to the sovereign or the government.

Ambassador. A diplomatic envoy of the highest order sent by one Sovereign or State on mission to another Sovereign or State.

Amnesty. General pardon shown to the convicts on special occasions or an exemption from prosecution or punishment granted to political and other offenders.

Anarchism. As a political doctrine, anarchism does not mean disorder or absence of normalcy. According to this doctrine, the State or government is an evil and should be abolished and replaced by free association of groups with no laws or restrictions. The instinctive desire on the part of the people to act together for their mutual benefit will ensure order in such a State.

Anarchy. Greek word meaning "no government". It relates to conditions in a country equivalent to absence of government or with a government, powerless to maintain order. The doctrine that advocates conditions of anarchy is called *anarchism*.

Apartheid. A South African word meaning "apartness". It relates to policy of racial segregation (segregation of Whites and non-Whites) practised mainly in South Africa.

Appeasement, Policy of. The act of gratifying one's adversary with concessions even by sacrificing principles. This policy has topical reference to the British policy of appeasing Hitler by granting him territorial concessions during the period 1935-38.

Aristocracy. A word of Greek origin meaning government by the best men. In modern times, however, it refers to the government by a superior class, superior in birth and position.

Armistice. A temporary cessation of fighting pending formal negotiations for peace.

Asylum. Refuge or protection requested by or granted to a foreign national in another country.

Attache. Junior official in the diplomatic service such as Military, Naval, Air or Commercial Attache who functions as an adviser in the respective field to the Ambassador.

Autocracy. A form of government in which absolute political and coercive powers are concentrated in the autocrat or the ruler.

Autonomy. Right of self-government; power to manage internal affairs in a restricted sense as applied to a State in a federal order.

Balance of Power. The policy of preservation of an equilibrium of strength between countries or groups with a view to preventing them from becoming too powerful for the safety of others.

Balfour Declaration. The policy statement of the British Foreign Secretary, Mr. A.J. Balfour in 1917, pledging British support for a Jewish State in Palestine.

Ballot. Secret voting or the votes so recorded. (*I.S.R.* 1956)

Bamboo Curtain. See under '*Iron Curtain*'.

Bicameral system. A constitutional set-up wherein the legislature comprises two chambers, the House of the Commons and the House of Lords in England or Lok Sabha and Rajya Sabha in India.

Big Five. The five big participants in the war against the Axis powers. They are USA, USSR, UK, France and China. These nations continue to have a dominant voice in the United Nations. The first four powers are called the Big four.

Bilateral agreement. An agreement between two countries.

Black Panthers. A terrorist organization of the American Negroes whose members wear black jackets, carry firearms and resist white excesses by resorting to racial violence.

Blitzkrieg. A German word meaning lightning war, a violent, lightning attack intended to bring about a speedy, sweeping victory.

Blockade. Closing of ports and coasts of a country (in war) to prevent ships from reaching or leaving it. The measure is generally against neutral ships trading with the enemy.

Blue book. It denotes documents issued by the British Parliament as well as reports of Commissions and Committees. They are bound in blue paper covers.

Bolshevism. The political doctrine of Bolsheviks (in Russian, *Bolshevik* means majority within the party). It is the doctrine of Proletarian Dictatorship as advocated in Russia by the Bolsheviks led by V. I. Lenin.

Bourgeoisie. French name given initially to citizens of French towns and subsequently to middle classes everywhere, generally belonging to the mercantile and trading communities. The word used in the Marxian terminology denotes the modern capitalists. (*I.F.S.*, 1968)

Buffer State. The word "buffer" means a shock-absorbing object, interposed between two bodies about to come into contact. A Buffer State is, therefore, a small neutral State between two large States (generally not on good terms) helping in minimising the chances of hostilities.

Bureaucracy. Form of government wherein the paid officials (like the I.C.S. in olden days) exercise the controlling influence. These days, the class of officials is also known as bureaucracy.

By-election. A mid term election to a seat rendered vacant by death, resignation or the unseating of a member.

Cabinet system. A parliamentary process by which a council of ministers, loosely known as the Cabinet, is made responsible for the government of a country. In a parliamentary democracy, the majority party elects a leader who chooses his colleagues to form his council of ministers. The Cabinet must enjoy the majority support of the Parliament, failing which it has to resign.

Casting vote. The vote of the chairman that decides between the two parties of equal strength.

Caucus. American term for a meeting of party managers to devise strategy and select a candidate for election. The term also denotes a powerful faction or a dominant group within a party.

Charge d' Affaires. The senior-most diplomat after the Head of the Mission who temporarily conducts the affairs of the Mission during the absence of the Head of the Mission.

Chauvinism. Aggressive patriotism with contempt towards other nations.

Civil Disobedience. Non cooperation towards and disobedience of the authority of the government as advocated by Mahatma Gandhi during the British rule.

Coalition. A combination or association of two parties with the purpose of forming a composite government. In times of war, a coalition of the party in power and the opposition is formed to forge unity of action. (*Stenographers, 1968*)

Co-existence. Simultaneous existence (and toleration) of conflicting creeds, ideologies and systems. Co-existence may be national or international and political, economic or religious.

Collective responsibility. In a parliamentary democracy, the fact of the Cabinet being jointly answerable to the legislature. Thus every member of the Cabinet (designated as Minister) is responsible for the action of the Cabinet, as the Cabinet as a whole is responsible for the action of the Minister.

Collective security. The doctrine that all nations should collectively ensure safety of an individual nation; the security alliances like NATO, SEATO, CENTO and Warsaw Pact are described as such alliances but, in reality, they are bastions of aggressive power.

Cominform. Communist Information Bureau, formed in 1947 by Russia and her satellites. It expelled Yugoslavia in 1948 for insisting on autonomy. The Bureau was liquidated in 1956 to reconcile Marshal Tito, President of Yugoslavia.

Comintern. The Third International, formed in 1919 at Moscow to spread Marxian socialism in the world. Stalin dissolved this organisation in 1943 as a friendly gesture towards the Allies.

Confederation. Alliance of countries for specific purposes but the States continue to retain their individual independence.

Coup d'état. Sudden change of government, forcibly effected by a ruler, the Army or a political party.

(I.A.S., 1954 ; I.N., 1945)

Cold war. The extremely aggressive propaganda campaign waged between two power blocs and having potentialities of culminating into a shooting war any time. This campaign may be accompanied by a mad struggle for power and prestige. China and Russia are in the grip of cold war at present. South East and West Asia where shooting wars are raging, have been the victims of global consequences of East-West cold war. Chinese and Pakistani rulers' antagonism towards India and anything Indian is dictated by cold war considerations.

Communism. A socio-economic theory, based on Marxian doctrines and ultimately aiming at a classless society in which the principle "from each according to his abilities, to each according to his needs" will be consistently applied. In the economic field, all resources of the nation will be communally owned and production and distribution will be state-directed. Socialism is the transitional phase leading ultimately to the goal of communism.

Concordat. An agreement between the Pope, in his spiritual capacity, and a State, as the temporal authority, regulating points of conflict between the Church and the State.

Condominium. Joint rule over a country by two or more other States. The Sudan was jointly administered by Britain and Egypt from 1899 to 1955.

(I.A.S., 1948)

Constituent Assembly. Body of elected representatives who have assembled to frame a Constitution for the country.

(I.N., 1945)

Consul. An official accredited by a State to protect the commercial interests of her nationals in a foreign country.

Contraband. Goods and war material which are forbidden under the international law to be supplied by the neutral States to the belligerents.

Credentials. Literally meaning letter of introduction. It refers to the letter of authority and other documents regarding the appointment of an envoy to another country which he presents to the Head of the State of the country, he is accredited to, before formally getting down to his official work.

Cross voting. The act or practice of some individuals or groups, both ruling and in opposition, to vote against the directions of the party they belong to. Thus some from the ruling group vote for opposition and *vice versa*.

Cut motion. A motion or resolution, moved by a legislator, calling for a token cut (as small as a rupee) but occasioning

discussion on the performance and budgetary demands of a Ministry or department.

De facto recognition. Recognition accorded to a country in fact, whether valid in law or not.

Deadlock. Completely standstill situation wherein further negotiations are impossible.

Demagogy. The art of provoking and appealing to the prejudices of the people by false, unscrupulous orators.

Democracy. A political order wherein the government is run by the elected representatives of the people. The ancient Greek philosophers defined democracy as rule by the poor. In the modern times, however, the classic definition of democracy by Abraham Lincoln as "government of the people, by the people, for the people" is universally accepted.

Dialectical Materialism. The doctrine developed by Marx and Engels and based largely on the logic of dialectic propounded by the German philosopher Hegel. According to him, progress results from the interaction of two conflicting half-truths; one concept (thesis) yoking its opposite (antithesis) and the two interacting to form new concept (synthesis). According to Marx, historical change is the result of the conflict between the classes. The workers' struggle is seen as thesis, the capital's antagonism as antithesis and the resulting compromise as synthesis.

Diarchy (Dyarchy). A system of government wherein the executive is divided into two sections one consisting of elected representatives responsible to the legislature and the other comprising nominated officials or others responsible to the Head of the State. The system of diarchy was introduced in the Indian provinces by the Government of India Act of 1919.

Dictatorship. A political order wherein supreme powers are vested in an official or a party leader-turned-ruler. In recent times, Hitler and Mussolini ruled as absolute dictators.

Embargo. Temporary stoppage of a particular trade; originally it related to the denial of freedom of movement to ships.

Envoy. A diplomatic emissary accredited to a country and holding a status below that of an Ambassador.

Episcopacy. Government of church by bishops.

Espionage. A well-planned and well-directed system of spying laid by a government or its agency in a foreign country.

Extradition. Handing over by one government to another of a fugitive from justice.

Fascism. A narrow political creed developed in Italy by Mussolini. A reaction against socialism and democratic equilibrium, it meant end of parliamentary government, concentration of power in the autocrat, anti-Semitism, aggressive nationalism and denial of collective bargaining to the labour and of right to declare lockouts to the management.

Federal Government (Federalism). A system of government in which autonomous states unite and agree to surrender a part of

their authority for certain purposes but for others they are independent. The division of power is laid down in the Constitution. The central subjects generally include defence, external affairs and communications whereas subjects of local importance are given over to the federal units.

Feudalism. A socio-economic order in which feudal lords were granted absolute rights in land in return for certain services to the king including the raising and providing of soldiers in time of war.

Fifth Column. Body of anti-national spies who, in the time of war, sympathise with the enemy and work for it by organising subversion to hinder the national effort. (*Stenographers, 1968*)

Filibuster. Pirates and adventurers who either plundered the newly-established colonies or organised armed attacks into friendly countries. In modern times, it refers to the obstructionist activities in the legislative bodies (especially in the U.S.).

(*K'nagpur, 1959*)

Floor Crossing. The act or practice of a person or a political group, under democracy, to cross over to the opposition with the intent of toppling the ministry, system etc. etc. It has been extensively indulged into by some legislators in India during the period following 1967-elections.

Four Freedoms. In his message to the Congress in June, 1941, President Roosevelt of the USA, pleaded for four freedoms to form the basis of civilised society. They are freedom of speech and expression, freedom of worship, freedom from want and freedom from fear.

Franchise. Right of voting at public elections.

Fundamental Rights. The basic rights of an individual, especially in a civilized society. These include freedom of expression and religion, rights to equality, liberty and property and right of constitutional remedies. The fundamental rights have been embodied in most of the world's written constitutions.

Gallup Poll. An opinion poll devised and put into vogue by G. H. Gallup, an American journalist. Trends in public opinion are gauged and broad conclusions are deduced with the help of this device by interviewing representative sets of people.

Genocide. Wilful extermination of a racial, ethnic, religious or a political group. This has been made an international crime by a UN Convention of 1948. Genocide was systematically practised by the Nazi regime in Germany and millions of Jews were done to death by various means.

(*Stenographers, 1968*)

Good offices. A pacific and conciliatory role played by a third party to help compose the differences between two groups or nations antagonistic to each other.

Guided democracy. A political system in which the free play of democratic practices has been subjected to certain limitations. The present regimes of Pakistan and Nepal and the former regime (under Soekarno) of Indonesia are examples of guided democracy in action.

Habeas Corpus. Act of British Parliament passed in 1679. Under the Act, if a person is kept in prison without trial the courts are empowered to issue a writ to the jailor to produce the person and bring him for proper trial. It also provides facilities to the prisoner for a speedy trial and release on bail.

(*Indian Forest Service, 1968*)

Hansard. Verbatim record of the day-to-day proceedings of the British Parliament. It is named after Thomas Curson Hansard, an English printer, who began to issue accounts of Parliamentary debates in 1803. In 1908, the government took over this responsibility but retained the name given to these reports.

Hierarchy. It denotes a body, religious or secular, organised on ranks, orders or grades.

Hot Line. A direct telephone line between the White House (USA) and the Kremlin (USSR), established in 1963, making personal contact at the top possible between the two countries in a time of crisis and thus avoiding accidental wars. A similar Hot Line was also established between Moscow and Paris in November, 1966 "in order to strengthen mutual contacts at the highest level."

(*I.A.S., 1964*)

Impeachment. Formal accusation and prosecution by a legislature against the Head of the State or high public officials for serious misconduct or crime against the State or Constitution.

Imperial Preference. The system whereby some goods from the countries within the British Empire were exempt from the payment of duties while others were granted tariff concessions.

Imperialism. An urge of a nation to organise economic and political penetration in other countries culminating in empire-building. During the last 200 years, many European nations acquired, administered and developed less advanced territories for purposes of trade, prestige and domination.

Inquest. A legal or judicial probe into the circumstances leading to the death of an individual.

Instrument of Accession. The formal document whereby a State has effected its merger with the federation or union. With the lapsing of British paramountcy in India in 1947, the rulers of princely States were competent to execute the instrument of accession for the merger of their States with the Indian Union.

International Law. Body of law regulating the relations between nations and including pacts, treaties and conventions. It deals with such matters as the treatment of prisoners and the wounded, contraband and blockade and the rights of the neutrals. International law is administered by the Court of International Justice at the Hague.

Internationalism. The almost utopian concept envisaging disappearance of national frontiers and formation of the whole world into a single federation, administered by a world government.

Iron Curtain. First used by Britain's war-time Prime Minister, Mr. Winston Churchill in an address in 1946, the term denotes the Soviet Union's efforts to seal off itself and its East

European satellites from normal contacts with the non-communist countries.

The term **Bamboo Curtain** is used to designate similar policy of political and social isolation by China. (*Stenographers*, 1968)

Legation. A diplomatic mission in status lower than the Embassy. The official residence of the head of this mission is also known by this name.

Liberalism. A political order, credited with free trade, religious liberty, abolition of slavery and extension of franchise.

Limited Monarchy. A constitutional set-up wherein the monarch enjoys only nominal powers and the real power rests with the representatives of the people though the business of the State is conducted in the name of the monarch. Such a system exists in England.

Lobbying. Play of influence and pressure by some legislators over the others in the lobbies of the legislature in connection with important legislative business. (*Senovs*, 1967)

Lok Ayukta. Enjoying powers similar to those of the Lok Pal, Lok Ayukta will look into complaints against lower officials which are not dealt with by the former.

Lak Pal. A functionary of the status of the Chief Justice of India, to be appointed by the President to investigate public complaints against Ministers and Secretaries. Recommended by the Administrative Reforms Commission, this appointment is designed to eradicate corrupt practices in high public offices.

Lynching. System of extra legal punishment inflicted on Negroes by the Whites in the 18th Century in America and Europe. It was widely prevalent in the areas where racial antagonism was strong and authority weak. The name is taken from the Virginian farmer Charles Lynch who was the leader of those who took summary vengeance on black men for offences against the Whites.

Mandate. The system of trusteeship established by the League of Nations for the seized German and Turkish colonies or territories. Under the system, Britain governed Tanganyika, Palestine and Jordan and France governed Syria as mandated territories.

Manifesto. A pre-election declaration of policy by a political party detailing its future programmes, if voted to power.

Mediation. Efforts by intermediaries to help compose differences between two antagonists.

Mikado. Official title of the Emperor of Japan.

Monarchy. A system of government in which sovereign powers vest in a single person, called Monarch or King. Being the source of all executive and legislative powers, his will is law.

Money Bills. Bills involving financial commitments on the part of the government such as the annual budget etc. etc.

National Anthem. The official song of a nation which is played on state ceremonial occasions.

Nationalisation. The policy of taking business, industries or other projects, under the control and management of the State.

Nationalism. The doctrine of social philosophy in which the good of the nation is paramount. In its narrow sense, it may mean excessive or aggressive zeal for the welfare and advancement of the country, even at the cost of other people's interests.

Naturalisation. The process by which an alien is granted citizenship of a country.

Naxalism. Taking its name from the Naxalbari uprising of March, 1967, it is the ultra-revolutionary Marxist movement, violent in character. Forcible dispossession of the landowners, grabbing of land by the tillers and armed agrarian revolution are the prominent features of this movement. All Naxalites are Mao supporters.

Nazism. The political ideology of the National Socialist German Workers Party, led by Adolf Hitler till 1945. It was steeped in the glorification of the German race (the purest Aryans), strong nationalism, anti-Semitism and establishment of a pan German empire. Jews and Communists were the "greatest enemies" of Nazism.

Neutrality. An attitude (or policy) of strict impartiality and non-alignment towards the warring nations or ideologically antagonistic countries. (I.A.S., 1950)

Oligarchy. Greek word meaning the rule of the few. It is considered as a bad form of government since the few will always rule, as motivated by their own interests.

Open Door Policy. It refers to the policy of equal commercial and industrial rights for all nations. The notable example is the Open Door Policy in China after the Opium War but more effectively from 1899, lasting until World War II.

Ordinance. A decree or Act promulgated by the Head of the State in a state of emergency, or when the legislature is not in session. Such ordinances are valid only for a specific period after which they must be approved by the legislature.

Pacifism. Doctrine of elimination of war by individual and collective action. The pacifists strongly oppose the wilful killing of human beings and advocate obstruction of all efforts at militarism.

Panch Sheel. The five principles, formulated jointly by the Prime Ministers of India and China in 1954 to found an enduring friendship between the two countries as also among all nations of the world. They are : (i) Mutual respect for each other's territorial integrity and sovereignty ; (ii) non-aggression ; (iii) non-interference in each other's internal affairs ; (iv) equality and mutual benefit ; and (v) peaceful co-existence. While the principles found broad acceptance in most countries of the world, China herself flouted them by launching a full-scale attack on India in 1962 and by continuing to maintain a posture of hostility ever since.

Paramountcy. Overall supreme authority of a State over the other. Paramountcy exercised by the British Government over the Indian princely states lapsed with the Indian independence.

Parole. A prisoner's word of honour that, if released, he will not attempt escape, will return to custody and (in case of a military prisoner) will not take up arms against the captors for a specific period.

Persona non grata. A diplomatic envoy not welcome (or, not acceptable) in the host country.

Personality cult. Extreme adulation of a ruler or a political figure by the people. Such idolization generally turns that person's head and often helps him assume absolute powers and turn a tyrant.

Pilgrim Fathers. The English Puritan separatists who sailed to America in 1620 in the *Mayflower* and founded the Plymouth colony, Massachusetts.

Plebiscite. Derived from a Greek word, it denotes vote of the entire electorate on a distinct issue. The plebiscite in the NWFP and the former Sylhet District of Assam in 1947 are the recent examples.

Plenipotentiary, Envoiy. A diplomatic official who has been invested with full and special powers with regard to his assignment.

Plutocracy. A government run (or dominated) by a wealthy class of people.

Polarization. A situation when two factions within an organization or when two separate organizations come to profess and practise diametrically opposite opinions and ideologies, forming themselves into mutually-opposite forces.

Polycentralism. The doctrine that all socialist countries and all communist parties have equal rights, with none possessing the privilege or right to impose its particular experience on others.

Power Politics. Political activity aimed mainly at capturing power or retaining it in disregard to the welfare and good of the people.

Prerogative. The exclusive right or privilege enjoyed by a person or a body.

Privilege Motion. A motion moved by a legislator to draw attention of the House towards a matter involving breach of privilege of the House or any of its members.

Privy Purse. The yearly maintenance allowance granted to the Princes of Indian States after the States' merger with the Indian Union. (Stenographers, 1968)

Proportional Representation. The fact of a member of an electoral college commanding a number of votes in proportion to the number of electors that he represents.

Protectorate. A dependent (in certain cases weak) State which looks to another (strong) State for its protection and for the conduct of its foreign relations.

Protocol. Diplomatic etiquette ; original draft of terms and treaty (between two governments) agreed to in conference and signed by the parties.

Provincial Autonomy. The complete freedom of action allowed to the provinces in the subjects included in the Provincial List under the Govt. of India Act of 1935.

Quisling. A traitor who helps and cooperates with the enemy who is in occupation of his country. The term is derived from **Vidkun Quisling**, an officer in the Norwegian Army, who assisted the German invasion of Norway in 1940 and who was installed a puppet Premier. After the war, he was tried for treason and shot. His name has become a synonym for a traitor.

Quorum. A fixed minimum of members (in legislature and other elected bodies) whose presence is essential for the proceedings to be held valid.

Referendum. The Swiss practice of referring constitutional amendments and other important legislation of controversial nature to the direct vote of the people. The verdict of the people is binding on the government.

Representative government. A government run by the elected representatives of the people. The elected representatives, in fact, carry out the wishes of the electors which are reflected in the various legislative and executive actions of the government.

Republic. Opposite of Monarchy. Under this system, sovereignty rests with the people and is exercised by their elected representatives. Head of the State is called the President.

Responsible government. A system of government in which the executive is answerable for all its actions to the elected legislature.

Rule of Law. A political order in which all people, irrespective of their religion, colour or profession, are equal in the eye of law. No man will be punished bodily or in any other manner except for a clear breach of law, established in the ordinary legal manner.

Sabotage. Wanton destruction of machinery or other factors of production by the workers. It also means senseless damage of public utility services or important defence installations by paid agents of the enemy.

Sanctions. Penalty or reward imposed for disobedience or obedience (as the case may be) attached to a law. This is done to enforce obedience to any rule of conduct.

Secularism. The system under which there is no state religion yet all religions and faiths enjoy equality of treatment. In the strict literal sense, secularism denotes a system that rejects belief in God, religion and future life.

Self-determination. The term means the right of a nation to decide its own form of government and its political destiny.

Single transferable vote. A phenomenon in which a member of the electoral college possesses one vote but as many preferences

as the number of candidates. By exercising his preference, the elector is said to have transferred his vote to another person.

Skinheads. Close-cropped, heavy-booted white youngsters in Britain (mostly coming from the nation's slums) who provide an antithesis to the "hippy cult". Of late, these elements have been terrorizing the coloured immigrants, especially the Asians, in Britain.

Socialism. A political and economic doctrine aiming at socialisation of the factors of production and state control over the processes of distribution. Competition is to be replaced by cooperation and rewards of labour are to be apportioned equitably. Marxian socialists believe that such an order is born out of a public upsurge culminating into a revolution. Others maintain that socialism is possible through democratic methods.

Sovereignty. It is the supreme and ultimate power of a State to impose its will upon all persons, associations and things within its jurisdiction. Freedom from external control is an essential element of sovereignty.

Sphere of Influence. Territories where the will and the influence of a superior power have a decisive role.

Spoils System. The widely prevalent practice in the U.S.A. to apportion important offices to the loyal members of the party in power.

Statute. Laws made by the Parliament, which are said to have been placed on the statute book. These laws are binding on all subjects of a particular country.

Suffrage. The right of voting in political elections.

Suzerainty. Right of general control over semi-independent or internally autonomous State.

Syndicalism. A doctrine of French origin which, during the days of early 20th Century, aimed at the elimination of the capitalists, and control and management of industry by the syndicates comprising the workers.

Territorial Waters. A belt of sea surrounding the coasts of a country over which that country has jurisdiction. The generally accepted territorial waters limit is three miles though some countries are known to have arbitrarily increased this limit.

Theocracy. A religious State.

Totalitarianism. A political order in which absolute powers are concentrated in one (the ruling) group and no rival loyalties or parties are tolerated.

Treason. Gross violation by a subject of allegiance to the authority of the State or active collaboration with or adherence to the enemy.

Troika. The unsuccessful Russian proposal for the abolition of the post of the UN Secretary General and its replacement by a three-nation executive, called Troika, comprising a member each from the West, Soviet Bloc and the neutral nations respectively. All the three members were to be invested with veto power.

Unicameral. A legislature having only one house.

Veto. The constitutional power enjoyed by a sovereign or a Head of the State to reject a legislative enactment. The five permanent members of the Security Council enjoy the veto rights.

Weightage. Allowing a particular community (or group) more representation than it can claim on the basis of its population.

Whip. An important party official, entrusted with the responsibility of organising disciplined voting according to the party directions and ensuring attendance of the party members on a specific occasion.

White Paper. A detailed policy statement issued by a government with regard to a matter of considerable public importance. Originally, it was the name given to the reports of the British Government giving official version of important matters of public concern.

LEGAL TERMS

Affidavit. A written statement, confirmed by oath, for use as evidence in legal proceedings. (*I.A.S., 1956 ; I.R.S.E., 1965*)

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Assessor. A person who acts as an assistant or adviser to a judge or a magistrate ; also a person (official) who estimates the rateable value of property for taxation and assesses taxes.

Attorney, Power of. A document, executed under seal and in proper manner, appointing another person and conveying his authority to act on his behalf in the matters specified in the document.

Bail. The promise, backed by proper security, given by an accused or a convict to present himself for trial at the specified day and time. Failure to comply amounts to forfeiture of security deposit. A bail is admissible in *bailable offences* only.

By-Laws. Rules or laws, framed by a corporation, a company or an elected body to facilitate its day-to-day operations. These laws are to be in conformity with the law of the land.

Caveat Emptor. "Let the buyer see to it", thus disclaiming responsibility for any future risk.

Certiorari. A writ issued by a High Court to a lower court asking for records of a case, earlier tried by the lower court.

Circumstantial evidence. Proof, based on known facts, to establish an otherwise doubtful case.

Code. A systematic collection of rules or laws such as the Indian Penal Code.

Contempt of court. Any disobedience of the orders of a court of law or interference with the administration of justice.

Copyright. Exclusive right of the author in his works of literature or art, forbidding an unauthorised use by others. An infringement of a copyright (valid for 50 years) is actionable.

Court Martial. A service court for trying members of the Armed Forces, both officers and men, in accordance with the military law for offences or violations of the military discipline.
(I.T.I., 1958)

Covenant. An agreement under seal between two or more persons.

Decree. Decision or a judgment having the force of law.

Detenu. A person taken into custody by the State.

Easement. Right of way or light or other similar right over another's ground, building, etc. etc.

Exhibit. A document or material, produced in a court of law and mentioned in the written evidence.

Forgery. The term denotes counterfeiting a signature, making a false document or effecting unauthorised alterations therein.

Indemnity. An undertaking to make good a loss.

Indictment. A written accusation against a person on trial.

Injunction. A judicial order restraining a person from a particular course of action.

Intestate. Person who dies without having made a will.

Jury. A formally appointed body of persons to render verdict on questions, submitted to them before trial, in respect of both civil and criminal cases of importance.

Larceny. A kind of theft.

Lease. A contract between the owner and the tenant, called the lesser and the lessee respectively, by which the former conveys land or tenement to the latter for a monetary consideration.

Legacy. Money or property left to a person by will.

Letter Patent. A properly executed document by the government granting exclusive rights of an invention or a privilege to a person.

Libel. A published statement damaging to a person's reputation or business.

Licence. A written permission by the State to a person to carry on some trade or enjoy a privilege.

Mandamus. A writ issued by a higher court to a lower court directing it to perform a specified act pertaining to its office.

Mortgage. Pledging of one's property as security for the loan received.

Notary Public. An official, usually a lawyer, appointed to attest or certify documents and deeds.

Official Receiver. An official, properly appointed to look after the affairs of the insolvent's estate and effect liquidation in an orderly manner after taking into account its assets and liabilities.

Perjury. Making a false statement on oath.

Plaintiff. A person who, as complainant, brings a suit in a court of law.

Proxy. A person acting on behalf of another.

Sequestration. The act of temporary seizure of property of a debtor by the State till a dispute or claim made on it is decided upon.

Sedition. A serious act, speech or statement amounting to rebellion or gross breach of public order.

Summons. A directive from a court of law ordering a person to appear before it at a specified date, time and place.

Warrant. A legal document giving power of arrest and detention before trial, seizure of property or search of houses and buildings.

Will. A legal document by which a person disposes of his assets on death.

Writ. A written order by the Supreme Court or the High Court directing the State or a lower court to act or abstain from acting in a particular matter.

ECONOMIC, COMMERCIAL AND TRADE TERMS

Acceptance. Indication by the person on whom a bill of exchange is drawn of his assent to the order of the drawer.

Advice. Any notification of a business transaction, apprising an agent, correspondent, or customer that a certain thing has been done.

Annuity. Periodical payment (once in a year or at intervals of a stipulated period) of money for a limited time. It is an investment on which the owner receives not only interest on his money but also return of his capital over a period of years.

Antedate. It is to assign an earlier than the true date to a document, cheque or a bill of exchange.

Appreciation of money. A phenomenon when the value of money goes up on account of a fall in the general price level.

Arbitration. Method of deciding disputes without resort to law, strikes, lock-outs or war, by reference to a disinterested party called arbitrator. Arbitration may be of three kinds: legal, industrial or international.

Article of association. A detailed statement of rules and regulations of a company of limited liability laying down the conditions under which the company will work.

Assets. Property of a person or a company as distinguished from his or its liabilities. The assets of a company consist of its building, machinery, goodwill etc.

At sight. An indication on bills or notes to the effect that they are payable on demand without allowing three days of grace.

Auditor. A person who audits the accounts of a company. He examines the books and accounts and makes his report on the balance sheet. Employment of an auditor is compulsory for the public bodies and limited companies.

Balance of Payments. Difference of value between payments into and out of a country on account of goods, services, capital movements, interest charges and tourist expenditure.

Balance of trade. The difference between the values of exports and imports. If the value of exported goods exceeds the value of imported goods, the balance of trade is taken as favourable. If the reverse is the case, balance is unfavourable.

(I.A.S., 1968)

Balance sheet. A detailed annual statement of the accounts of a business firm, showing debits and credits under specified heads with a view to determining the profit or loss position of the firm during the year.

Banker's cheque. A cheque drawn by one banking company on another.

Bank credit. The extra purchasing power created by banks over and above their cash balance because of public confidence in the bank's solvency.

Bank notes. Paper unit of currency. In India, only Reserve Bank of India can issue these notes.

Bank rate. The rate at which the Central Bank (in case of India, the Reserve Bank of India) will discount the first class bills of exchange, or advance loans on approved securities.

Barter. Exchanging of commodities with other commodities without intervention of any form of currency.

Bears and Bulls. A speculator who brings down the prices by selling in the hope that he will be able to buy back at a lower price is called a *Bear*; a *Bull* is the opposite of *Bear* who tries to force prices up.

Bearer cheque. A cheque encashable to a person who holds it.

Bill of credit. A letter authorising the advance of money to a person, specified in the letter, with obligation to repay that amount.

Bill of exchange. A written unconditional order by a person agreeing to pay a certain amount of money at the end of a certain time or on demand to the order of a certain person or his authorised nominee.

Bimetallism. A monetary system in which both gold and silver are used as standards of value and are coined freely.

Bond. Document by which a person, a government or a corporation agrees to pay a sum of money in a certain time.

Bonus. Payments in addition to the normal dividends payable to the shareholders of a company. It also includes gratuity to workmen in addition to the normal wages or salaries.

Budget. Annual estimate of revenue and expenditure of a country or a subordinate authority such as a State or a Corporation.

Buyer's Market. An economic phenomenon wherein more goods are available in the market than demanded and the buyers can thus dictate the prices of goods. (*I.A.S., 1953*).

Carat. Measure of weight for precious stones (about $3\frac{1}{2}$ grains). It is also measure of purity of gold, pure gold being of 24 carat.

Cartel. National or international combination of manufacturers or traders to fix prices and limit supplies or divide markets among the members. Cartels lead to monopolies and economic corruption.

Caution money. Money deposited as security for good conduct especially at a school, college or university.

Ceiling on land holdings. Restrictions imposed on the possession of agricultural land, beyond a certain limit. Varying ceilings on land holdings have been imposed in some of the States in India with a view to preventing the land from going into the possession of few individuals and to ensuring its rational utilisation.

Clearing house. The place where representatives of various banks meet, exchange cheques, drawn on the respective banks and settle the account by the payment of balances only. (*I.A.S., 1956*)

Collectivism. State ownership of all means of production to secure for the community as a whole an equitable distribution of the fruits of their associated labour. Collectivism is the dominant feature of a socialist or communist society both in the matter of production and distribution. (*I.A.S., 1966*)

Collective farming. Farming done under the direction of the government as a collectivist programme. The land is state-owned.

Conspicuous Consumption. Ostentatious spending on luxuries to project an image of affluence. It helps divert capital to the production of non-essential goods and is, therefore, considered as a national waste especially in the developing economies.

Cooperative farming. Farming done jointly by a number of farmers who have pooled their resources of land and capital and share the crops in proportion to their investment in terms of land and capital. They continue to retain the proprietary rights in land and have the right to secede if they so desire. Cooperative farming forms an important aspect of our current planning but somehow it has not yet caught the imagination of the Indian farmer.

Credit, letter of. A letter from a bank, firm or from one person to another, authorising payment of a specified sum to third person named in it for which the sender assumes responsibility.

Crossed cheque. As a safety measure, a cheque is crossed, *i.e.*, two parallel lines are drawn across the face of the cheque with words "& Co." written between them. Such a cheque cannot be got encashed directly but the amount will be credited in the account of the drawee.

Current account. A kind of deposit with the bank which can be operated without any restrictions on the frequency or extent of withdrawals. Such deposits earn no interest.

Death duty (Estate duty). A kind of tax levied on the property inherited by a person on the death of its previous owner. The tax, imposed in India since 1953, is determined on the market value of such property.

Debenture. A debenture is a bond issued by a company as evidence of a loan raised with clear indication about the payment of the sum at fixed rate of interest after a specified period of time. Debenture holders are not members of the company but are creditors. Debentures are the first charge on the assets of the company.

Deed. A deed is a legal document given under seal, and more binding than an ordinary agreement. Deeds are executed for the sale or mortgage of property and for other purposes. The deed must be properly signed and witnessed.

Deficit financing. It is a Keynesian device to finance economic development, revive economy or maintain a particular level of employment. It comprises issuing of paper money. It is employed when development activity cannot be financed through the normal revenues of the State or its internal and external loans. This mechanism is also resorted to to support large scale government spending and economic planning to promote employment. However, if not backed by a proportionate increase in production, it generates strong inflationary tendencies and brings down the real wages of workers as also creates other complications. (I.A.S., 1954)

Deflation. An economic phenomenon, characterised by decrease in the supply of money and bank deposits and falling profits, wages, incomes and employment, accompanied by fall in general price level.

Demand draft. A bill of exchange payable on demand.

Demonetization. The governmental act of depriving metallic coins or paper money of specified denomination of its status as money. This is resorted to to unearth hidden wealth which has remained unaccounted for for purposes of income tax assessment.

Demurrage. A progressive penal levy imposed on the goods that are not removed within a stipulated time after their conveyance to the station of their destination.

Depreciation. This term is used to denote a fall in the value of money consequent on a general rise in price level.

Devaluation. A deliberate government measure to reduce the value of home currency in relation to the foreign currency. The measure is designed to popularise exports (which then cost less in terms of foreign currency) and discourage imports (which become dearer) and to thereby correct imbalances in foreign trade.

Diminishing returns. This economic law states that, other factors remaining unchanged, the successive doses of labour and capital in agriculture (and to a certain stage in industry also) result in increase in production but at a diminishing rate.

Diminishing Utility. The doctrine states that successive doses of consumption of identical articles result in increase in utility to the consumer but at a diminishing rate.

Dividend. It is a sum of money, set aside out of a company's profits for distribution among the shareholders.

Draft. An order in writing to pay a certain specified sum of money. It is in the form of a cheque drawn by one branch of the other branch of the same bank or by a bank on the other bank.

Dumping. An economic measure whereby goods are diverted from home consumption and exported and sold in the foreign market at much cheaper rates with a view to undercut the producer in the importing country and gain control of market.

Economic planning. Economic planning is a systematic process of development, under the central authority, by public and private spending, aimed at raising the living standards of the people and creating new opportunities for a richer and more varied life.

Embargo. Temporary stoppage by the government of a particular trade.

Escheat. Lapsing of property to the State if its owner dies intestate (without leaving a will) without an heir.

Estate duty. Same as death duty.

Eurodollar. The common currency in use in the European Common Market countries.

Excise duty. Duty levied on goods manufactured within the country.

Expenditure Tax. A tax on the expenditure on personal consumption in respect of people enjoying exceptionally high levels of income. This measure is designed to encourage saving and discourage spending on articles of luxury.

Face value. The nominal value marked on the face of a security. This is also called 'par value' or 'value at par'.

Foreign exchange. The transfer of the money of one country into that of another.

Free on board (f.o.b.) It means that the goods will be supplied at a particular port free of any liability towards freight, insurance etc. which already stand charged.

Free trade. Trade between nations without restrictive duties. Theoretical basis, according to Adam Smith, for free trade is territorial division of labour, each region producing what it can most cheaply and best. Under the system, either there should be no duties on imports or both the imports and home-produced goods should be subject to same duties.

Gilt-edged securities. Securities or investments which are regarded safe and, at the same time, bring high return.

Gold standard. A system of currency based on free coinage of gold. Under the system, the State sells and buys gold at a fixed price in terms of the local currency. (*Indian Forest Service, 1968*)

Goodwill. Reputation attached to a business as a result of patronage of a large clientele.

Grace, days of. A period of three days (or more) allowed by custom or law beyond the fixed day of payment for a bill of exchange.

Green Revolution. Breakthrough in agricultural production in India, brought about since 1967-68 due to introduction of improved seeds, modern mechanized methods of production and greater use of irrigational resources.

Hard currency. Currency of those countries with which we have an adverse balance of payment. This currency cannot be obtained easily. Canada and U.S.A. are considered as the hard currency areas.

Hire Purchase. System by which goods are bought and paid for by a series of instalments. Technically, such goods are taken as on hire until fully paid for. (*Asstt. Gde., Stenos., 1965*)

Index number. An elaborate statistical method of indicating the relative level of prices or wages at a particular date as compared with the base year. (*I.S.R., 1956; I.A.S., 1968*)

Inflation. Undue increase in the quantity of money in relation to goods available in the market. It is characterised by rising prices which reduce the real wages of the workers. (*S.C.R.A., 1967*)

Laissez-faire. French phrase meaning "let alone". It is the individualist doctrine envisaging no interference by governments in politics or commerce.

Legal tender. Money or currency in which debts can legally be paid and which the creditor is bound to accept in payment.

Limited company. A company in which the liability of its shareholders is limited to the amount of their shares.

Limited liability. It means that the liability of the shareholder is limited to the extent of the value of their shares.

Lockout. Temporary suspension of the working of a factory or business firm by the management to resist the demands of the labour and its refusal to revive activity unless the labour accepts its terms.

Malthusian Theory of population The population theory propounded by Malthus which states that population increases by geometrical progression and food supply by arithmetical progression. The nature strikes the balance by means of war, famine and disease.

Marginal utility. It is difference made in the total utility of a commodity by consuming one unit more or less of that particular commodity.

Mixed economy. A middle-of-the-road economic system that allows existence of and fairplay to both private and public sectors in economic development.

Money market. The term is applied to the competitive market where the transactions in money, lending and borrowing, take place. In other words this market comprises the banking institutions, brokers and stock exchanges.

Monopoly. Virtually complete control over the supply of a product or service forcing consumers to pay the dictated price. Monopolies are formed by means of cartels, merger of various business firms or by mutual agreements to restrain from competition.

(*P.C.S., 1965*)

Moratorium. A government measure envisaging postponement of a debt or other liability, usually for a definite period. The measure is resorted to rarely and in extreme cases of war or depression.

National debt (Public debt). Indebtedness of a government reduced in money terms. It relates to public loans comprising bonds, treasury certificates or other such instruments issued to finance projects (such as public works or wars), expenditure on which cannot be met from normal revenues of the State.

National Dividend. The part of the objective income of a community, measured in money, which is distributed during a given period among the factors of production. It consists of the aggregate value of all the goods produced and all the services rendered during the period after making proper allowances for the wear and tear and depreciation of the capital goods of the country.

Negotiable instruments. Those document which, on transfer, convey the legal right to the property they represent. Cheques, bills of exchange, notes, bonds and other such documents are negotiable instruments.

Octroi. Tax imposed on the goods coming into the limits of a city or town and appropriated by the local authority.

Overhead expenses. The cost on account of wages of the labour, office expenses, management, interest on capital and other general needs of a business. Against these are the fixed costs comprising machinery, plants and land which will have to be incurred even if the production is stopped or suspended.

Paper Gold. The newly devised system under which special money resources have been created to discharge international trade obligations without resort to payment in gold. According to the system, IMF member countries will have "special drawing rights (SDRs)", consistent with their present IMF quota and role in international trade, by which the nations will settle their trade accounts, without exchange of gold or paper currency.

Patent. Sole right given by the State to an inventor of making, using or selling his invention during a specified period. In India, patents are granted under the Patent Act.

Preference Shares. *See under 'Shares'.*

Private Limited Company. A company or business firm whose membership is restricted between 2 and 50. The shares of such a company are transferable only among this restricted membership. The company is not allowed to issue a general invitation to the public to subscribe for its shares or debentures.

Public Limited Company. A company or business organisation whose capital is contributed by the public by purchasing its shares.

Public sector. The section of the economic life which is under public (government) ownership and direction. It includes the State enterprises and undertakings.

(Dhanbad, 1961)

Rationalisation. A deliberate process of making productive industries more efficient by eliminating wastes of all kinds. It is

generally characterised by modernisation of machinery and plants and introduction of labour saving devices resulting in unemployment. In the under-developed countries, this process is not looked at with favour.

Real Wages. The total amount of necessities, comforts and luxuries that the labour can obtain in return for its wages. At the time of high prices or rising prices the real wages of the workers are reduced whereas during depression or falling prices the real wages rise.

Royalty. The part of sale proceeds of a book, picture or other form of art or business which is paid to the author or the owner. It also relates to the payments made to individuals for mining rights in respect of coal and oil extraction.

Shares. An instrument certifying to shares in the ownership of a public company. The shares may be of two kinds: **Ordinary or Equity Shares** and **Preferred Shares**. **Ordinary Shares** are those shares which are subject to maximum risk and have no privilege attached to them except that the holders of these shares may vote in the company's management. These shares receive dividends when payments on the preferred stock have been made. **Preferred Shares** are the first charge on the assets of the company and must receive a fixed rate of return whether the company earns a profit or not. Capital invested in shares is called **Share capital** or **Equity capital**.

Sinking Fund. It means a sum of money set aside to repay a loan. A part of the profits of companies or revenues of the government is set aside for this purpose.

Sit-down strike. A form of strike during which the labourers attend the factory but put down the tools and refuse to leave the premises of the factory.

Soft currency. It is currency of the country with which we have a favourable balance of payment.

Solvency. The state of having sufficient money to meet all pecuniary liabilities in full.

Speculation. It is the act of buying and selling of shares and securities in a stock exchange with a view to gaining profits from the future changes in prices.

Spot goods. Goods to be delivered immediately (on the spot).

State Trading. Entry by the government in the market to sell and purchase certain commodities with a view to controlling prices and ensuring a reasonable return to the producer by eliminating the middleman.

Sterling area. Group of countries (the Commonwealth countries except Canada) keeping their reserves in sterling (and not in gold or dollars), and transferring money freely between each other.

Sterling balances. During World War II, Britain had made large purchases from certain Commonwealth countries and instead of paying money on the spot had created balances in their favour. These balances were later utilised by the creditor countries to finance their purchases abroad.

Take-off Stage. An economic phenomenon characterized by a broad industrial base, an adolescent manufacturing industry and emergence of economic growth that ensure conditions of accelerated, automatic development of various sectors of economy.

Tariff. Imposition of duties on imports in order to shield domestic industries from foreign competition. Almost all countries of the world accord protection to home industries in this manner.

Tax. A monetary demand made by the government on persons, property or the business. A **Direct Tax** is the tax whose incidence and impact fall on the same person, e.g. the income tax. An **Indirect Tax** is the tax whose incidence and impact fall on different persons. Such a tax is the tax on consumer goods (incidence falling on the trader) which is generally shifted to the consumer by an equal increase in the price of these goods (the impact of the tax having fallen on the consumer). **Gift tax** is the tax on the gifting away of movable or immovable assets by one person to another.

Trade cycles. The cyclic ebb and flow in the business activity, characterised by booms and depressions. Booms are marked for periods of good trade, rising prices and wages and low unemployment percentage. Trade depression means downward trend of business activity, falling prices and unemployment. Money market is very tight and there is no investment.

Trade mark. Distinctive mark placed upon goods offered for sale by a particular manufacturing firm. Trade marks are protected by law and their infringement is actionable.

Trade union. Association of workers in a particular trade for the purpose of improving their economic status through collective bargaining with employers.

Trust. Business combination which controls the policies of a number of organisations.

Wage freeze. The act of freezing the wages at a particular level and placing of restrictions on their upward revision. This is a measure against inflation and is aimed at breaking the vicious circle of prices chasing wages and *vice versa*.

Water mark. Any distinguishing device stamped in the substance of the paper, used for bank and currency notes, as a protection against forgery.

MILITARY, AVIATION AND NAVAL TERMS

Aeronautics. Science of aerial navigation.

Aircraft Carrier. A ship that has facilities to store, launch and land aircraft. Experimentally used in World War I, its real advantages could only be gauged during World War II. It represents an immense striking force and is an effective weapon against the enemy.

Airship. An obsolete and crude type of flying machine, now entirely replaced by the modern aircraft. It was a huge balloon kept aloft by gases such as hydrogen and helium and had an engine fitted into it. An early such machine, Zeppelin, was built

in Germany and was used in World War I but without spectacular advantages.

Amphibian aircraft/tank. An aircraft which can take off from and land at water or surface ; similarly a tank which can run on land and cruise on water.

Ambush. The act of secretly lying in wait for the enemy with a view to striking by surprise.

Anti-aircraft gun. A fast moving gun used for defence against the attacking aircraft.

Armistice. Temporary cessation of hostilities pending negotiations for durable peace.

Arsenals. Manufacturing units of arms and ammunition for use by the armed forces ; also a place where such arms and ammunition are stored.

Artillery. Collective name for certain type of heavy guns, used in the modern warfare, as well as their troop element. Modern artillery is almost wholly mechanised and may be fixed or mobile.

Atom bomb. A powerful weapon of death and destruction. Deriving its explosive force from the immense energy, released by the splitting of the atom, it lets loose destruction with its intense heat, shock wave and lingering radio-activity. This weapon, invented by a German named Otto Hahn, was developed by America and used against the Japanese at Hiroshima and Nagasaki.

Bale out. The act of dropping from the aeroplane by means of a parachute

Barrage. Volume of artillery fire directed on a definite area. It is used to cover the advancing troops as well as to resist the advancing enemy columns. It is also fired behind the enemy lines to disrupt communications or cut off supplies.

Battalion. An army formation comprising about a thousand combatants and commanded by a Lieutenant Colonel.

Battery. A unit of a number of artillery guns, fixed or mobile.

Battleship. A huge naval ship of formidable strength, potential striking capability and capacity to prove a fortress of defence. Slow in speed, it has a tonnage of about 40,000.

Battle cruiser. A big warship, faster in speed and lighter in armour than the battleship. But it has a strong hitting power.

Boeing 747 (Jumbo Jet). Latest and the largest commercial airliner from the U.S.A., capable of carrying about 500 passengers. It has revolutionized the very concept of air traffic.

Bomber. An aircraft employed for hitting enemy targets with bombs.

Bren gun. An automatic gun, heavier than the rifle.

Brigade. An army formation with three battalions plus. It is commanded by a Brigadier. However, an Independent Brigade is commanded by a Major General.

Bull's eye. The centre of the target that has to be hit while training or practising.

Booby trap. Highly explosive ingredients are put in hollow articles of everyday use and thrown around the enemy territory. These articles, when picked up out of curiosity, explode and harm the people and property nearabout.

Ballast. Insufficiency of cargo may make a ship unsteady. With a view to making it cruise smoothly, large loads of iron, stone and gravel are put in it to make up for the cargo. Such a ship is said to be in ballast.

Cockpit. Seat of the pilot in the fuselage of an aeroplane.

Camouflage. Concealing of objects by various systematic means to deceive the enemy about their location and protecting them thereby from air and land attacks.

Commando. A small body of guerilla fighters, highly mobile. Such troops, raised in Burma by General Wingate, proved very useful as shock troops for raiding purposes.

Conscription. Compulsory enrolment of personnel for service with the armed forces. It is resorted to in times of war when large armies have to be raised and the voluntary recruitment falls short of requirements.

Cruiser. It is a fast type of warship which is used in naval warfare. Its efficiency is rated next only to a battleship. Cruisers are of two types, the battle cruisers combining maximum gun calibre, armour protection and speed, and light cruisers of moderate tonnage, lightly armed but very fast in speed.

Depth charges. An anti-submarine bomb used against submerged submarines and dropped from an aircraft or launched by a naval craft. It explodes at a desired depth and the range of its effectiveness is about 60 feet from the centre.

Destroyer. A fast warship with high manoeuvrability having tonnage between 1500 and 2000. It is fitted with powerful torpedo armament, medium guns and anti-aircraft artillery. It is an excellent ship for convoy duty and most effective against submarine attack.

Detonator. A device or substance used to fire a charge of explosive. A fulminate of mercury mixed with potassium chlorate or fulminate of silver are the best known detonating substances.

Division. An army formation between an army corps and a brigade and consisting of two or more brigades of infantry with appropriate artillery, engineering and other elements. A full-fledged division should normally have about 20,000 men. It is commanded by a Major General.

Degaussing. Neutralising the magnetisation of a ship as a precaution against magnetic mines sown by the enemy. It is done by encircling the hull of the ship with a degaussing belt (a current-carrying conductor.)

Dive-bombing. A kind of bombing in which the aircraft dives close to the object, drops the bombs and rises again.

Dogfight. An air duel between aircraft at close range.

Enfilade. Subjecting the enemy line of works or men to a fire from end to end.

Espionage. A systematic network of spying behind the enemy lines.

Fighters. Aircraft which attack, fight or check the enemy aircraft. They are lighter and faster than the other aircraft. .

Flagship. A warship having an Admiral on board. The Admiral in command of a squadron of ships issues orders from the flagship which also has a distinctive flag.

Flag Day, The Armed Forces. The day (7th December) on which small flags are sold throughout the country to raise funds for the welfare of armed forces and ex-servicemen.

Flotilla. A fleet of boats or small ships.

Frogman. An operator trained to perform underwater operations against enemy ships.

Glider. An engineless aeroplane, resembling a normal aircraft designed to descend gradually from a height to the ground. It uses gravity and natural air currents to gain forward movement. Tied to an aircraft with a long rope and launched in mid air, it can land on any flat ground.

Grenade Small explosive device thrown by hand or shot from a gun.

Guerilla warfare. Irregular war, comprising occasional raids and employing hit-and-run tactics to harass the enemy. This type of war has been considerably developed by the Chinese Communists. Mao Tse-tung has also written a treatise on it.

Guided missiles. Unmanned, self-propelled space or air vehicles carrying explosive warheads. They are either self-directed with inlaid controls or are under remote human control based on the firing range. They are powered by rocket or jet propulsion.

Inter-Continental Ballistic Missile (ICBM) is a rocket-propelled surface-to-surface guided missile carrying a nuclear warhead which can reach any city or installation in the world and destroy it completely.

Intermediate Range Ballistic Missile (IRBM) is of three types, air-to-surface, surface-to-air and air-to-air. An air-to-surface guided missile, launched from an aircraft, is employed to hit targets in the battlefield. Surface-to-air and air-to-air guided missiles are used against the enemy missiles or aircraft.

Polaris Missile is a powerful device, launched by a naval ship or a submarine cruising under water.

Active research is being conducted by the USA and the USSR to design and produce an anti-missile missile.

HF-24. A twin engined supersonic jet fighter, produced at the Hindustan Aircraft Factory, Bangalore.

Howitzer. A type of cannon larger than a mortar, designed to fire heavy projectiles. It has a very high trajectory and is generally employed for hitting enemy installations, especially earthworks and other obstacles.

Hydrogen-bomb. It consists of a fission bomb (atom bomb), surrounded by a layer of hydrogenous material. The exploded

atom bomb makes possible the conversion of hydrogen nuclei to helium nuclei with the evolution of even greater quantities of energy. The explosive effect of a hydrogen bomb is comparable to the explosion of tens of megatons of T.N.T.—about a thousand times more destructive than the atom bomb.

Jet propulsion. A process whereby mass of gas under high pressure, discharged through nozzles in the rear of the wings and fuselage, produces a forward thrust. (*J.A.S., 1959 ; N.D.A. 1962*)

Machine gun. An automatic gun, designed for quick firing and rapid loading. It utilises either the power of recoil or the explosion of gases for this purpose.

Magazine. A specially designed storehouse for arms and ammunition. The cartridge-holding socket in a rifle is also called a magazine.

Magnetic mine. Marine explosive device consisting of a magnetised metal container of explosives with a sensitive projecting detonator. As soon as a ship comes into its magnetic field, it is attracted towards it, hits it violently and bursts. Such mines were variously used by the Germans during World War II.

Manoeuvres. Army, Air or Naval exercises which are frequently held during peace time to afford opportunity to the troops to acquire practical training of latest kind. They are also designed to check the usefulness and effectiveness of tactics and strategy, the efficiency of firepower and the general preparedness of troops.

Marut. Also called HF-24, it is being produced at Bangalore.

Mines. Explosive charges used in modern warfare on land and in sea. A land mine, consisting of a charge of high explosive, is buried in ground and is discharged by electric means or when pressure is put on it. A marine mine is an explosive charge with a projecting detonator, submerged in water. It explodes when a ship comes into its contact.

Mirage. French supersonic “swing wing” aircraft. “Mirage G” can fly at a terrific speed of about 1600 miles per hour. Israel had used such aircraft with advantage against the Arabs in the 1967 conflict.

Mobilization. The state of keeping troops in combat readiness.

Molotov cocktail. Crude incendiary bomb.

Mopping operations. Operations launched by the occupying forces to complete occupation of a territory by apprehending or destroying the enemy stragglers or others still holding out in some pockets and trying to regroup themselves.

Mortar. A small cannon designed to fire at a short range but at a high trajectory. It is an effective small weapon, used by the infantry.

Napalm bomb. A highly inflammable explosive containing the aluminium soap of naphthenic and palmitic acids. These bombs cause widespread damage as a result of devastating fires.

Ordnance. All military stores and equipment, including mounted guns, cannons and other artillery equipment, all kinds of vehicles, ammunition and clothing.

Panzer. German word meaning "armoured". German armoured division is called Panzer Division and its troops as Panzers.

Parachute. An umbrella-like device which, when opened up, allows a slow descent of a body falling through air. This collapsible device is fitted to a dropper from the aircraft and it helps him reach the ground safely. (I.A.T., 1959)

Paratroopers. Soldiers trained in air-dropping.

Picket (Piquet, Picquet). A small body of troops, stationed to watch enemy movements, also used for patrolling and some other assignments.

Pillbox. An extremely elaborate field fortification, first used by the Germans in World War I. These consist of concrete shelters or emplacements for machine guns and behind them are concrete trenches and dugouts, designed to withstand artillery bombardment and to effectively check the enemy's onslaught. During the Indo-Pak War of 1965, Pakistan forces had used such pillboxes on the Ichhogi Canal, in the Lahore Sector.

Platoon. A division of a company of infantry. It consists of about 50 soldiers and is commanded by a Lieutenant or a 2nd Lieutenant.

Polaris Missile. See under 'Guided Missiles'.

Pom-Pom. A one-pounder, quick firing gun, invented by Sir H.S. Maxim and named after the sound it produces while firing.

Pontoon Bridge. "Pontoon" is a flat-bottomed boat used as a ferry boat. Several of these boats are combined to support a temporary bridge, called the Pontoon Bridge. Such bridges are installed by the army for crossing purposes.

Port side. The left side of the ship which is always towards the port.

Railhead. The ultimate point to which military supplies can be transported by rail and the starting point for the transport of these supplies by road.

Ratings. Non-Commissioned naval personnel.

Reconnaissance. Land, air or marine reconnoitring to locate enemy troops or positions and ascertain strategic features.

Regiment. A permanent formation of the army; but it is not a fighting formation. Instead it has several battalions under it and a centre for training its soldiers. The examples are Sikh Regiment, Jat Regiment etc.

Rocket. A projectile, driven by reaction propulsion which contains its own propellants. Independent of the Earth's atmosphere, it is assured of propulsion in space. (N.D.A., Dec. 1962)

Salvo. Simultaneous discharge of artillery or other guns, located at a point as a salute or in a naval fight. The term also stands for the number of bombs released from the aircraft at the same time.

Shock troops (crack troops). The terms mean the mighty core of the armed strength, comprising top class fighters, who are employed for special assignments of offence and defence.

Skybolt Missile. A kind of Intermediate Range Ballistic Missile. For details *see under* 'Guided Missiles'.

Squadron. An air force formation comprising 20 aircraft. It is commanded by a Squadron Leader; also a body of war vessels.

Smoke-screen. Creation of an artificial thick veil of smoke to conceal the important military operations such as advance of troops or their retreat or, in naval operations, landing of troops on the coast. The smoke is created by smoke shells or generators.

SR-71. Newly developed American reconnaissance plane with a speed of 2,000 miles per hour and fitted with latest radar and visual and mapping devices, capable of penetrating clouds and other phenomena. The aircraft supersedes the 'U-2 spy-plane'.

Strategy. It means the art of military, naval and air movements and, in fact, the whole conduct of a particular campaign. It includes the tactics employed, the deception plans, the skilful disposition of troops, the art of drawing the enemy for combat at a place most advantageous from own point of view, correct anticipation of enemy movements and, above all, the judicious use of main arms of the machine to produce the desired results.

Su 7. The Russian supersonic fighter-bomber. Such aircraft have recently been supplied to India by the U.S.S.R.

Submarine. A naval underwater vessel, generally fitted with torpedoes to attack surface vessels. Such craft were extensively used during World War II. These days some of these vessels have been armed with long-range missiles. American atomic-powered submarines and their Russian counterparts can travel long distances without refuelling or surfacing.

Subroto (Avro-748). A turbo jet aircraft manufactured at Kanpur. It is named after the former Chief of Air Staff, Air Marshal Subroto Mukerjee.

Supersonic aircraft. The aircraft which, while flying, can cross the sound barrier—740 miles per hour.

Tank. Armoured motor vehicle, fitted with guns of various calibre and with caterpillar traction-circular chains connecting the wheels on either side to traverse rough country. It is a major weapon of offence and defence. Such sophisticated devices as radar and automatic range-finder have now been fitted in this weapon. This weapon was first developed and used by Britain during World War I.

Tattoo. Originally, a drum or bugle warning to the soldiers to retire to their lines. The term now denotes a military display, given at night.

Tommy gun. A self-loading small rifle invented by John T. Thomson, an American.

Torpedo. A self-propelled submarine projectile, usually cigar-shaped. Aimed at a ship, it explodes when it comes into contact with a vessel. The first effective torpedo was developed by an Englishman in 1866. The small but fast naval craft that carries and discharges torpedoes is called **Torpedo Boat**.

Tramp. A cargo ship which does not run on a regular line.

Trench. Excavation in earth to provide effective safeguard against enemy fire. It can be like a ditch or a long channel, depending on the extent and manner of use.

Tu 114. A recently developed Russian supersonic airliner.*

War of nerves. A calculated campaign of ceaseless propaganda, accompanied by large-scale movement of troops and feverish preparations, to keep the enemy in a state of suspense. Such tactics are employed to create a fear psychosis in the enemy and to thereby bring down its morale.

Zero hour. The point of time when attack is proposed to be launched.

SOME FAMOUS LINES

Durand Line. The international boundary between Afghanistan and Pakistan. The boundary was drawn by Sir Mortimer Durand in 1893. The Pathan lands in the vicinity of this boundary were only vaguely defined and were left free of either country's control. However, when Pakistan arbitrarily took over these lands in 1950, relations between Pakistan and Afghanistan were adversely affected. Ever since the creation of Pakistan, Afghanistan has consistently refused to recognise the Durand Line.

Hinderburg Line. The German defensive positions made during 1916-17 against the Allied armies. These positions were, however, overrun by the British and French forces in Sept-Oct., 1918.

Mannerheim Line. This fortified line of defence across the Karelian Isthmus was planned by Field Marshal Mannerheim of Finland. This line was broken by the Russians in 1940. During the Finnish-Russian War of 1939-40, the Finnish forces against the Russians were led personally by the Field Marshal. (*P.C.S., 1961*)

McMahon Line. It is the boundary between the North-Eastern Frontier Agency (NEFA) of India and Tibet. In 1914, a conference was held at Simla attended by the representatives of India, China and Tibet. The British Government of India was represented at the conference by Sir Henry McMahon. This boundary was agreed to at this meeting and was actually marked on a map which formed part of the draft Convention initialled by the representatives of India, China and Tibet. China has now refused to recognise this Line, though she has, without hesitation, accepted the Burmese part of this Treaty. China's recognition of the McMahon Line in Burma is incorporated in the Sino-Burmese Border Agreement signed in January, 1960.

Maginot Line. Strong fortifications along the eastern frontiers of France, extending from the Swiss to the Belgian border, named after the French War Minister Andre Maginot. The Line proved absolutely useless as the German army flanked it in 1940 and made a thrust against France through Belgium and around Sedan. The fortifications were left intact. (*N.D.A., 1965*)

Oder-Neisse Line. International boundary dividing East Germany and Poland. The Line starts from the junction of Oder and Neisse rivers and forms the line of demarcation between East

Germany and the former German territory, placed under Polish administration in 1945. Poland and her Communist allies are therefore, eager that this Line should be finally recognised as the boundary between Poland and Germany.

Radcliffe Line. The international border between India and Pakistan, demarcated by and named after Sir Cyril Radcliffe, Chairman of the Boundary Commission for the two countries. The border was defined in August, 1947.

Siegfried Line. Named after the great ideal hero of Germanic mythology, it represented the strong defence fortifications on the Franco-German border, constructed by Germany. (N.D.A., 1955)

17th Parallel. The line dividing South and North Vietnam.

24th Parallel. The line demarcating the border between the Indian State of Gujarat and West Pakistan. Pakistan was not prepared to agree to this boundary. This led to the border trouble of early 1965.

38th Parallel. The Line dividing South and North Korea. It was decided at the Potsdam Conference in 1945 that after liberation Korea, which had been annexed by Japan in 1910, would be freed. In 1945, the Allied military leaders agreed that, with a view to speeding up the victory, the Russian troops should conquer the Korean territory up to 38th Parallel and the Americans south of it. Subsequently, the Japanese north of the Line surrendered to the Russians and in the south to the Americans. Later, the Line became the permanent dividing line between South and North Korea.

CHAPTER 9

WHO'S WHO

Q. What do you know about the following :—

(i) John Wayne (ii) Premjit Lal (iii) Samuel Beckett (iv) Angie F. Brooks (v) Lon Nol (I. I. S., 1970)

Ans. (i) The famous Hollywood actor who was recently given the Oscar Award. (ii) Indian tennis player of world fame. (iii) Irish writer and winner of 1969 Nobel Prize in literature. (iv) 24th President of the United General Assembly (1969-70) and a national of Liberia (Africa). (v) The present Prime Minister of Cambodia who in March, 1970 overthrew Prince Sihanouk, the Cambodian Head of State.

Q. Write about two lines on each of the following

(i) Vasco da Gama (ii) Tondai Ma (iii) Rani Mohan Roy (iv) Mohammed Ali Jinnah (v) Vinoba Bhave (I. I. S., 1970)

Ans. (i) See under 'Important World Personalities' (ii) to (v) See under 'Who's Who (India)'.

Q. (a) In what sphere did the following each give distinction

(i) Nandlal Bose (ii) Mihir Sen (iii) P. Shipra Athavale (iv) I. V. Narlikar (v) Dr. H. J. Bhattacharya (vi) V. K. Rajwade (vii) M. S. Subbalaxmi (viii) Ravi Shankar (ix) Panjab Gosh (x) Uday Shankar.

(b) Mention the country to which each of the following belonged :—

(i) Alexander the Great (ii) Sun Yat-sen (iii) Grigoriy (iv) Lloyd George (v) Khrushchev (vi) Louis XIV (vii) Truman (viii) Ho Chi-minh (ix) Fidel Castro (x) Ian Smith (I. M. I., May, 1970)

Ans. (a) (i) Painting (ii) Swimming (iii) Mountaineering (iv) Physics (v) Nuclear Physics (vi) Film acting, direction and production (vii) Carnatic music (viii) Music (Sitar) (ix) Music (flute) (x) Dancing.

(b) (i) Greece (ii) China (iii) Italy (iv) England (v) Russia (vi) France (vii) America (viii) North Vietnam (ix) Cuba (x) S. Rhodesia.

Q. Who are the following ? (Two lines each)

(i) Andrew Cowan (ii) Frank Borman (iii) Lloyd Bucher (iv) Asghar Khan (v) Helen Keller. (I. I. S., 1969)

Ans. (i) The British motor car racer who in December, 1968 won the London-Sydney motor race called the Carathon. (ii) American astronaut who commanded the Apollo 8 flight. It was the first spaceship to orbit the moon and return to earth safely. (iii) Commander of the American spy ship named PUEBLO which was captured by the North Koreans in January, 1968. The ship crew was released in Dec., 1968. (iv) A former C-in-C of the Pakistan Air Force, Asghar Khan has since entered the Pakistan politics with much fanfare. (v) The famous American blind and deaf leader and author. She died on 1 June, 1968.

Q. Why did the following become prominent in the recent past ?

(i) Sant Fatch Singh (ii) Willy Brandt (iii) Denis Michael Rohan (iv) Dr. Lal C. Verman (v) Ingrid Thulin.

(*Indian Forest Service, 1970*)

Ans. (i) President, Shiromani Akali Dal (Sant Group). He was in the news in January, 1970 when he undertook a fast and threatened to immolate himself if Punjab's claim to Chandigarh were not accepted. (ii) The new Chancellor of West Germany and an important Social Democrat leader. He has been instrumental in bringing about rapprochement between communist and non-communist European nations and between West Germany and the USSR. (iii) The Australian young man, since declared deranged of mind, who set the famous Al Aqsa Mosque in Jerusalem on fire. (iv) A former President of Indian Science Congress and Director General, ISI, he has been appointed Regional Adviser to ECAFE. (v) The celebrated heroine of the "Damned", a film that won the Golden Peacock in the International Film Festival held at New Delhi in December, 1969.

Q. Who are the following ?—

(i) Ton Duc Thang (ii) Darshan Singh Pheruman (iii) Pal Losonczy (iv) D.R. Gadgil (v) Dudley Senanayake (vi) G.L. Nanda (vii) Hassan II (viii) G.G. Swell (ix) Paul P. Harris (x) Mrs. Violet Alva

(*I.N., July, 1970*)

Ans. (i) President of North Vietnam (ii) A Swatantra leader of the Punjab who fasted to death in 1969 for inclusion of Chandigarh in Punjab. (iii) President of Hungary (iv) Deputy Chairman, Planning Commission. (v) Former Prime Minister of Ceylon and at present leader of the Opposition, (vi) The present Central Railway Minister. (vii) King of Morocco (viii) Deputy Speaker, Lok Sabha (ix) The American attorney who founded the Rotary Club. (x) A former Deputy Chairman, Rajya Sabha who died in Nov., 1969.

Q. (a) Write a few lines about each of the following men of science :—

(i) Leonardo da Vinci (ii) William Harvey (iii) Dimitri Mendeleev (iv) J.J. Thomson, and (v) Enrico Fermi.

(b) What is the field of study of each of the following :—

(i) Levoisier (ii) Kepler (iii) M. Visveswaraya (iv) S.S. Bhatnagar (v) Count Rumford (vi) Marie Curie, and (vii) D.N. Wadia.

(*I.N. July, 1970*)

Ans. (a) (i) Italian painter and scientist. He is reported to have given a concrete idea of a combat vehicle, now known as tank and also a number of other scientific instruments. (ii) English physiologist, discoverer of circulation of blood and function of heart as pump. He also did important research in embryology. (iii) Russian chemist who discovered concept of Periodic Law of classification of elements. His other important researches were in the nature of solutions and expansion of liquids. (iv) English physicist and winner of 1906 Nobel Prize for study of electrical conduction through gases. He discovered electron and also studied its mass and charge. He is also known for his work in radio-activity.

(v) American physicist and Nobel Prize winner in 1938 for work on radio-active substances. He achieved the first self-sustaining nuclear chain reaction.

(b) (i) Chemistry (ii) astronomy (iii) Engineering (iv) Chemistry (v) physics (scientific theory of heat) (vi) Chemistry (discovery of radium) (vii) Geology.

Q. What are the following persons famous for ? (20 words each)

(i) Spiro T. Agnew (ii) C.F. Andrews (iii) C.N. Annadurai (iv) Neil Alden Armstrong (v) Jim Corbett (vi) Martin Luther King (vii) General Suharto (viii) Anantharao Srinivasa Prasanna (ix) Ravi Shankar (x) Ne Win. (Clks. Gde. Exam., 1970)

Ans. (i), (vi), (vii), and (x) *See under Important World Personalities.* (iii) and (ix) *See under 'Who's Who (India)'.* (ii) A great Christian reformer in Bengal during the early years of the present century. He supported the national struggle for freedom (iv) American astronaut who commanded the Apollo 11 spaceship to moon. He was world's first man to land on the moon on 21 July, 1969. (v) English soldier and shikari known for his hunting expeditions against man-eaters in the Terai jungles. He was the celebrated writer of "Man Eaters of Kumaon". (iii) Famous cricketer from Mysore who has distinguished himself as a dependable bowler. He was given the Arjuna Award for 1968 and Padam Shri in 1970.

Q. (a) Who are the following ?

(i) K.M. Munshi (ii) Jayant Narlikar (iii) Vikram Sarabhai (vi) J.R.D. Tata (v) Abdul Ghaffar Khan (iv) Dalai Lama (vii) Marshal Tito (viii) G.S. Dhillon (ix) S. P. Sen Varma and (x) Willy Brandt.

(b) With what movements/institutions do you associate the following ?

(i) Acharya Vinoba Bhave (ii) Guru Nanak (iii) Mrs. Annie Besant (iv) Dr. Martin Luther King (v) Dr. Rabindranath Tagore.

(c) State the special field of art for which each of the following is famous :—

(i) Zubin Mehta (ii) Hemant Kumar (iii) Ali Akbar Khan (iv) Begum Akhtar, and (v) Epstein. (N.D.A. May, 1970)

Ans. (a) (i) to (iii), (v) *See under 'Who's Who (India)'.* (iv), (viii) and (x) *See under 'Persons in the News'* (vi) and (vii) *See under 'Important World Personalities'* (ix) The present Chief Election Commissioner of India who is currently holding hearings on the Symbol Case. The two Congresses, led by Mr. Jagjivan Ram and Mr. Nijalingappa, have, it may be recalled, laid claim to the undivided Congress's election symbol of two yoked bulls.

(b) (i) Bhoodan (ii) Bhakti movement and Sikhism (iii) Theosophical Society (iv) Civil Rights for American Negroes (v) Shantiniketan.

(c) (i) Composition of western music (ii) Light music and composition of music (iii) Instrumental music 'Sarod' (iv) Vocal music (Thumri) and (v) Sculpture.

Q. Give the nationality of the following and mention what they are famous for ?

(i) Alexei Leonov (ii) Sun Yat-sen (iii) Rudolf Diesel (iv) J.V. Narlikar (v) Dag Hammarskjöld (vi) Col. Houari Boumedienne (vii) Janos Kadar (viii) Ravi Shankar (ix) Thieu, Nguyen Van (x) Helen Keller. (Asstt. Gde., 1969)

Ans. (i) Russian; he was the first spaceman of the world to walk in space. (ii), (iii), (v) and (x) See under *Important World Personalities*. (iv) and (viii) See under *Who's Who (India)*. (vi) Algerian. He ousted Prime Minister Ben Bella in a coup on 19 June, 1965 and assumed power as the President and Prime Minister of Algeria. (vii) First Secretary Hungarian Communist Party. He came into power after the Russian intervention and fall of Prime Minister Imre Nagy in 1956. (ix) South Vietnamese President. He was elected in 1967.

Q. (a) Name the Following :—

(i) President of the Philippines (ii) Pope (iii) Prime Minister of Israel (iv) President of Rumania (v) Foreign Minister of Soviet Russia (vi) President of France (vii) U.S. Secretary of State (viii) Prime Minister of Singapore.

(b) Who are the following

(i) C. V. Narasimhan (ii) Dinesh Singh (iii) B. R. Bhagat (iv) S. S. Dhavan (v) Sirhan Bishara Sirhan (vi) Kenneth Keating (vii) Erick Wickberg (viii) Prince Juan Carlos of Bourbon.

(I. N., Dec., 1969)

Ans. (a) (i) Ferdinand Marcos (ii) Pope Paul VI (iii) Mrs. Golda Meir (iv) Nicolae Ceausescu (v) Andrei Gromyko (vi) Georges Pompidou (vii) William P. Rogers (viii) Lee Kuan Yew.

(b) (i) Prominent Indian national in UN employ. He is at present Deputy Administrator UN Development Programme. (ii) Till recently Minister for Foreign Affairs, he is at present Central Minister for Industrial Development. (iii) He is the Central Cabinet Minister for Steel and Heavy Engineering (iv) Governor of West Bengal (v) The assassin of Robert Kennedy, younger brother of President John F. Kennedy. (vi) The U.S. Ambassador to India. (vii) General of the Salvation Army, elected in 1969. Salvation Army is a Christian international religious movement organized and operated on a military pattern. It has its headquarters in London. (viii) Sworn in in 1969 as the future King of Spain, the Prince will succeed General Franco.

Q. Why are the following famous in History ? -

(i) Fa-hien (ii) Man Singh (iii) Ram Mohan Ray. (iv) Cavour (v) Sun Yat-sen (vi) Benito Mussolini. (I. N. Dec., 1969)

Ans. (i), (v) and (vi) See under '*Important World Personalities*' (ii) Belonging to the royal family of Amber, Man Singh was Akbar's most trusted general. He defeated Rana Pratap at Haldighat in 1576. (iii) The famous 19th century Bengali reformer and scholar. His ceaseless fight against 'Sati' resulted in its suppression as also of many other horrid customs. (iv) Italian statesman. He was the chief architect of Italian unification during the 19th century.

Q. Who are/were the following and why have they been in the news recently ? (not more than 25 words each.)

(i) Shankar Acharya of Puri (ii) Khan Abdul Ghaffar Khan (iii) 'Che' Guevara (iv) Chidambaram Yisunni Kwabata (I I S, 1969)

Ans. (i) The Jagadgur who preside over the Math at Puri, established by Adil Shah Farachari (784-820). His reported statement on untouchability and National Anthem raised a storm of controversy recently. (ii) The Red Shirt leader of the Pathans who is lovingly called the Frontier Gandhi. He arrived in India in Oct., 1969 to attend Gandhi centenary celebrations and to receive the Nehru Prize. (iii) The Argentinian Guerrilla leader and revolutionary who was shot dead by the Bolivian Army in Oct. 1967. His personal diaries are reported to have been passed on to Cuba. (iv) The celebrated Urdu and Persian poet and prose-writer of the 19th century. His death centenary was celebrated in 1969. (v) The 70-year old Japanese novelist and writer who won the 1968-Nobel Prize for literature. He has written more than 70 books.

Q Why are the following famous?

(i) Premjit Lal (ii) Tenzing Norgay (iii) M. S. Subbulakshmi (iv) M. C. Cowdrey, and (v) Botticelli (I I S, 1969)

Ans. (i) Indian Fennis player of international fame and National Champion for 1963. (ii) World famous mountaineer who, together with Edmund Hillary, was the first to scale the Mount Everest in 1953. (iii) Christian Carnatic musician and singer who won the Padma Bhushan (1954) and President's Award for Carnatic Music (1956). (iv) The famous English Test cricketer who captured the MCC team against West Indies and Australia in 1968. (v) Famous Italian painter of renaissance who painted such masterpieces as *Spring Venus* and *Allegory of Calvary*.

Q Name the following

(i) President of the World Bank (ii) Prime Minister of England (iii) Governor of Bengal (iv) President of USSR (v) King of Iran. (Synonyms, 1969)

Ans. (i) Robert McNamara (ii) Edward Heath (iii) S. S. Dhawan (iv) Nikolai V. Podgorniy (v) Khomeini (v) Raza Khomeini

Q What are the names of the following

(i) President of the United States of America (ii) Governor of Reserve Bank of India (iii) Prime Minister of Canada (iv) Home Minister of India (v) Chairman of the University Grants Commission (vi) Prime Minister of Great Britain (vii) President of the French Republic (viii) Prime Minister of Japan (ix) Governor of Andhra Pradesh (x) Minister of Railways in India. (S C R A, 1969)

Ans. (i) Richard M. Nixon (ii) S. Jagannathan (iii) P. F. Trudeau (iv) Mrs. Indira Gandhi (v) Dr. D. S. Kothari (vi) Edward Heath (vii) Georges Pompidou (viii) Eisaku Sato (ix) Khandubhai Desai (x) Gulzari Lal Nanda

Q Who were the following persons and how did they die?

(i) John F. Kennedy (ii) Liaquat Ali Khan (iii) Deen Dayal Upadhyaya (iv) Charles I (v) Societes (Cent Info Ser 1969)

Ans. (i) America's youngest President (1961-63) who was assassinated in Dallas on 22 Nov., 1963. (ii) The Prime Minister of Pakistan (1947-51), who was killed by an assassin in Oct., 1951. (iii) President of the Bhartiya Jana Sangh who was murdered on 11 Feb.,

1968. (iv) King of England (1625-49) who was convicted of treason and beheaded on 30 Jan., 1649 (v) Greek philosopher (469-399 B.C.) who advocated such virtues as 'Truth, Enquiry' etc. but was forced to poison himself to death.

Q. Name the following :

(i) Speaker of the Lok Sabha. (ii) President of Italy. (iii) Prime Minister of Japan. (iv) British Foreign and Commonwealth Secretary. (v) President of the World Bank. (vi) Union Minister for Health and Family Planning (vii) Prime Minister of Ceylon. (viii) Governor of Haryana. (ix) Chief Minister of Mysore. (x) Deputy Chairman of the Planning Commission. (*Engg Ser., 1969*)

Ans. (i) G.S. Dhillon. (ii) Guiseppe Saragat. (iii) Eisako Sato. (iv) Alec Douglas-Home (v) Robert McNamara. (vi) K. K. Shah (vii) Mrs. Sirimavo Bandaranaike. (viii) B. N. Chakravarti. (ix) Veerendra Patil (x) Dr. D.R. Gadgil.

What do you know of the following ? (2 lines each)

(i) Christian Barnard (ii) Kanu Sanyal (iii) R.S. Vasudeva (iv) Raja Mukherjee (v) Andrew Cowan. (*Engg. Ser., 1969*)

Ans. (i) The South African surgeon who is the father of heart transplant surgery (ii) The ultra-communist, Naxalite terrorist leader who masterminded the Naxalbari uprising of 1967. He has recently formed a new communist party. (iii) The Indian FAO expert who was arrested (but later released) by the Cuban Govt. on charge of bringing into Cuba a fungus which could endanger the country's economy. (iv) A young cricketer who captained the Indian school boys' cricket team to Australia in 1968. (v) British motor car racer who in Dec., 1968 won the London-Sydney race called Carathon.

Q. (a) Name the following :

(i) Governor of Rajasthan (ii) Chief Minister of Tamil Nadu (iii) Secretary of State, USA (iv) Prime Minister of Canada (v) President, World Bank.

(b) Who are the following:

(i) Aristotle Socrates Onassis (ii) Yasunari Kawabata (iii) Hargobind Khorana (iv) Dr. Philip Blaiberg (v) S.S. Dhawan.

(*Geologists, 1969*)

Ans. (a) (i) Sardar Hukam Singh (ii) Mr. M. Karunanidhi (iii) Mr. William P. Rogers (iv) Mr. P.E. Trudeau (v) Mr. Robert McNamara.

(b) (i) The Greek shipping magnate who in Oct. 1968 married Mrs. Jacqueline Kennedy, widow of President John F. Kennedy of America (ii) The Japanese man of letters who won the 1968-Nobel Prize for Literature (iii) India-born American doctor who, along with two others, won the 1968 Nobel Prize for Medicine. (iv) The longest survived heart transplant patient (a white dentist from Cape Town, South Africa) who ultimately died in Aug., 1969 (v) The present Governor of West Bengal. Formerly he was Indian High Commissioner in London.

Q. What are the following persons famous for? (Answer each part in 20 words)

(i) Andrew Cowan (ii) Mirza Ghalib (iii) Andrei Gromyko (iv) Dr. Hargobind Khorana (v) R. Krishnan (vi) Robert S. McNamara (vii) C. Rajagopalachari (viii) Srinivasa Ramanujam (ix) William P. Rogers (x) Bertrand Russell. (Clks. Gde, 1969)

Ans. (i) The British motor car racer who in Dec. 1968 won the London-Sydney motor race called the Carathon. (ii) One of the greatest Urdu poets and prose stylists. His death centenary fell in 1969. (iii), (iv), (vi) and (x) See under *Important World Personalities*. (v) The world famous Indian Tennis player who in 1966 was awarded the Helms Trophy for being Asia's most outstanding amateur sportsman. (vii) See under *Who's Who* (viii) Eminent Indian mathematician known for his work on the Theory of Numbers. He is F.R.S. (ix) The US Secretary of State. He was Attorney General in the Eisenhower Administration and is a reputed negotiator.

Q. (a) Mention the nationality of the following:

(i) Lt. General Suharto (ii) Rev. Michael Scott (iii) Lin Biao (iv) A.O. Salazar (v) Gamal Abdel Nasser (vi) U Thant (vii) Jigme Dorji Wangchuk (viii) Tyagaraja (ix) Alexie Leonov.

(b) With what movement, political or otherwise, do you associate the following?

(i) Dayananda Saraswati (ii) Ignatius Loyola (iii) Raja Ram-mohan Roy (iv) Karl Marx. (I.M.A., Apr. 1969)

Ans. (a) (i) Indonesian (ii) British (iii) Chinese (iv) Portuguese (v) Egyptian (vi) Burmese (vii) Bhutanese (viii) Indian (ix) Russian.

(b) (i) Arya Samaj (ii) Catholic reform (iii) Radicalism of Sati (iv) communism.

Q. (a) For what branch of literature or art are the following noted? Mention their nationality.

(i) Thucydides (ii) Virgil (iii) Voltaire (iv) Chekhov (v) Wagner (vi) Rodin (vii) Whistler (viii) Frank Lloyd Wright.

(b) Who are the following:

(i) Rukmini Devi (ii) K.A. Abbas (iii) Sophia Loren (iv) Kesarbai Kerkar. (I.N., 'Apr. 1969)

Ans. (a) (i) History, Greek (ii) Poetry, Roman (iii) Philosophy, French (iv) Drama, Short story, Russian (v) Composition of operas, German (vi) Sculpture, French (vii) Painting, American (viii) Architecture, American.

(b) (i) Famous Bharatanatyam dancer who won the Sangeet Natak Akademi Award and Padma Bhushan (1956). (ii) Eminent journalist, novelist, film script writer and director of films (iii) The world famous Italian actress of Hollywood films (iv) Famous musician from Poona who was awarded Padma Bhushan in 1969.

Q. Write short notes on any three of the following : -

(a) The Farakka Barrage (b) Mr. Deen Dayal Upadhyaya (c) K.N. Katju (d) The Beatles at Rishikesh.

[Promotion Exam. (Army) Part 'B' Apr., 1968]

Ans. (a) It is the Rs. 110-crore barrage being constructed across the Ganga at Farakka in West Bengal. The project is designed to save the Calcutta port from extinction by flushing the mouth of Hooghly that gets choked by the sediments, brought and deposited by the sea tides. Pakistan has, of late, been objecting to

the Indian withdrawal. for the project, of 40,000 cusecs of Ganga water which, she contends, is badly needed for East Pakistan. The fact, however, is that East Pakistan is already well provided for in respect of water resources which are not put to the maximum use. The cry over the construction of barrage by India is largely political to keep the East Pakistanis in a state of antagonism towards India and to thereby check the East Wing's drift. The six conferences since 1960 have proved infructuous as Pakistan consistently refuses to settle the issue on technical grounds and wants, instead, a political solution identical to the one thrashed out years ago in respect of the Indus Basin waters. This kind of solution will help Pakistan acquire large funds for the development of the neglected East Wing.

(b) and (c) *See under 'Who's Who (India)'.*

(d) The famous pop singers—John Lennon, George Harrison, Paul McCartney and Ringo Starr—are collectively known by the professional name of the Beatles. These singers compose and sing a kind of music that is expressive of the ebullience of the young and is both intellectually and emotionally satisfying to the frivolous youth. In 1967, the Beatles came under the influence of Rishi Mahesh Yogi who initiated them in transcendental meditation, a meditative variety of his own. The Beatles, in 1968, trooped down to the Rishi's *Ashram* at Rishikesh but the experience was a partial failure as, after the course, they largely grew sceptic of its efficacy. Nevertheless, the Beatles helped the Rishi acquire the formidable position of a universally acclaimed spiritual potentate.

WHO'S WHO (INDIA)

Abdul Hamid, Company Quartermaster Havildar. The hero of Kasur Sector during the 1965 Indo-Pakistan war; he showed exemplary courage and bravery in face of Pakistani advancing tanks; he not only checked the enemy's advance but also helped to destroy many of his tanks; he died fighting and was posthumously granted the highest gallantry award—Param Vir Chakra.

Abdullah. Sheikh Mohammad (b. 1905). A former Prime Minister of Jammu and Kashmir. He was one of the founding members of the Kashmir Muslim Conference and later the National Conference. He became head of the State's Administration in 1947 and went to the UNO with the Indian delegation; was arrested in August, 1953 but released in 1958; detained again after four months' freedom under the Preventive Detention Act and set free in April, 1964; in May, 1965, he was detained under the Defence of India Rules for anti-national activities; he was released on 2 January, 1968. (N.D.A., 1966)

Abid Ali (b. 1900). A prominent trade union leader and President of I.N.T.U.C.; participated in the Khilafat and Non-Cooperation movements and all national struggles; was Deputy Labour Minister, Govt. of India (1952-62); represented India in numerous international conferences.

Afzal Beg, Mirza. A Kashmiri leader and a trusted lieutenant of Sheikh Abdullah. Belonging to the Plebiscite Front of Kashmir,

He has been campaigning for the holding of a plebiscite in Kashmir.

Agha Khan. The name given to the hereditary head of Mohammedan Ismaili sect. Hasan Ali Shah, Agha Khan I (b. 1800) became a Governor of a province in Persia but later settled down in Bombay and helped the British in their wars against the Sikhs and the Afghans. Agha Khan III (1877-1957) helped form the Muslim League in 1906 to seek Muslim approval of the British rule. His grandson Karim is the present Agha Khan.

Ahmed Khan, Sir Syed (1817-1898). The great Muslim reformer of the 19th century; founded the M.A.O. College Aligarh, which later became the Aligarh Muslim University; promoted higher education among Muslims. He remained scrupulously aloof from the national movement and promoted Muslim solidarity with the British Government. (I. A. S., 1967)

Ahalya Bai (died 1795). The pious ruler of Indore and a great administrator whom the historians have described as "one of the purest and most exemplary rulers that ever existed."

Ahmed, Fakhruddin Ali (b. 1905). Present Minister for Food and Agriculture and former Minister for Industrial Development (1967-70); Minister Assam (1958-66) and a former Advocate General of Assam; he has been in the Congress since 1939; in the 1967 general election, he was returned from Assam. He is one of the most important leaders of New Congress.

Aiyar, Sir C.P. Ramaswamy (1889-1966). A talented Indian with vast experience in administration, law and educational field. He was Dewan of Travancore State for 12 years.

Ali Yavar Jung Bahadur, Dr. Nawab (b. 1905). Governor of Maharashtra; educated at Hyderabad and Oxford; he was a professor at the Osmania University and also a Minister in Hyderabad State; he has had diplomatic assignments to Argentina, Chile, Egypt, Yugoslavia, Greece, France and the USA. He was awarded Padma Bhushan in 1959.

Alva, Shrimati Violet (1908-69). Deputy Chairman, Rajya Sabha (1962-69); an advocate by profession, she was jailed in the "Quit India" movement; she was Deputy Home Minister, Government of India (1957-62). She died on 20 Nov., 1969.

Ambedkar, Dr. B.R. (1893-1956). A prominent Scheduled Caste leader and eminent constitutional expert; was a Member of Viceroy's Executive Council (1942-46) and Law Minister, Govt. of India (1947-51). A member of the Constituent Assembly, he was also Chairman of the Constitution Drafting Committee; he was the President of the Scheduled Castes Federation.

Amir Khusro (1253-1325). The celebrated Hindi and Urdu poet in the time of Alauddin Khilji and Balban. He was called the *Tuti-i-Hind*.

Annadurai, C.N. (1909-69). Former Chief Minister of Tamil Nadu, founder of the DMK and the chief architect of its victory in the 1967 election. He died of cancer on 3 Feb., 1969.

Anand, Mulk Raj (b. 1905). Famous author, novelist and critic; appointed Chairman, Lalit Kala Akademi for five years (1966-71); also a member of Sahitya Akademi and National Book Trust of

India; an author with progressive views, he has written many books, important among them being *The Big Heart*, *Sword and the Sickle*, *Coolie* and *Untouchable*.

Aney, M.S. (1880-1968). A former Member of the Viceroy's Executive Council, an ex-Governor and M.P.; participated in the Civil Disobedience Movement; was Congress President (1933); Governor of Bihar (1948-52) and later Member, Lok Sabha.

Angami, T.N. Prominent Naga leader and former Chief Minister (1966-69); was a member of the Naga National Council, but broke away from it as he opposed violence of the extremist Nagas; he was Chairman, Interim Body, Nagaland (1961-63).

Anthony Frank (b. 1908). M.P. and President, Anglo-Indian Association; educated at Nagpur and London, he has been a leading criminal lawyer; represented India in the UNO and various International conferences.

Arya Bhatta. The great Indian mathematician and astronomer of the Gupta age. He propounded the theory of rotation of earth and explained the phenomena of lunar and solar eclipses.

Arati Saha (now Arati Gupta). The famous Indian swimmer who was the first Asian woman to cross the English Channel in 1959. (I.A.S., 1960)

Arjan Singh, Air Chief Marshal (b. 1909). Former Chief of the Air Staff (1964-69); commissioned in 1939 from the RAF Academy at Cranwell. He was the first IAF pilot to be awarded the DFC in 1944; in Nov., 63 he commanded the joint training exercise *Shiksha*; was awarded Padma Vibhushan in 1965.

Aruna Asaf Ali (b. 1910). A prominent revolutionary and heroine of the "Quit India" struggle when she successfully evaded arrest; a former Mayor of Delhi, she is an important member of All India Peace Council; was awarded the 1964 Lenin Peace Prize.

Ayyangar, Ananthasayanam (b. 1891). Ex-Governor of Bihar, was a member of Constituent Assembly and later Deputy Speaker, Lok Sabha; was Speaker, Lok Sabha from 1957 to 1962. He remained Governor of Bihar from 1962 to 1967. (I.T.I., 1966)

Ayyar, Sir Alladi Krishnaswamy (1882-1954). The renowned jurist and constitutional pundit who also served as member of Drafting Committee on the Indian Constitution.

Azad, Maulana Abul Kalam (1889-1958). A Congress President (of longest duration), Central Minister for Education and a great Urdu, Persian and Arabic scholar; a Congressman from early age, he was a front-rank nationalist who suffered various terms of imprisonment; wrote *India Wins Freedom*, *Ghubar-i-Khatir* etc.

Bakshi Ghulam Mohd. (b. 1907). A former Chief Minister of J & K and a prominent leader of National Conference; after Sheikh Abdullah's dismissal in 1953, he became Chief Minister of the State and continued till Sept., 1963 when he resigned under the Kamraj Plan; was arrested and detained in 1964 but released on health grounds; he is at present an M.P.

Balbir Singh (b. 1924). Leading hockey player and recipient of Padma Shri (1957); captained Indian hockey teams at 1948, 1952 and 1956 Olympic games at London, Helsinki and Melbourne respectively and at Asian Games at Tokyo in May, 1958. He also led

the Indian hockey teams to Afghanistan (1950) and to Singapore and Malaya (1954).

Barua, Hem (b. 1915). A prominent P.S.P. Member of Parliament, and writer in English and Assamese; was jailed in "Quit India" movement.

Barve, S.G. (1914-1967). A former Member of the Planning Commission; fought the 1967 election from Bombay (North) and defeated V.K. Krishna Menon, but died soon after.

Basu, Jyoti (b. 1914). A leading Left Communist leader of Bengal and Deputy Chief Minister in the U.P. Ministries of March-Nov., 1967 and 1969-70.

Bhabha, Dr. H.J. (1909-66). Indian physicist; became Chairman; Atomic Energy Commission of India in 1947; was President of UN Atoms for Peace Conference in 1955. The first and second atomic reactors were installed and commissioned under his supervision; he died in an air crash. (*I.T.I.* 1966; *N.D.* 1, 1966)

Bhagat Singh, Sardar (1909-1931). A great patriot and a revolutionary, he fought against the British might almost single-handed. Tried for complicity in the Assembly bomb case of 1929. He was hanged in 1931.

Bhagavantam, Dr. S. (b. 1909). Former Scientific Adviser to the Defence Minister and Director General, Defence Research and Development; has written *Scattering of Light and Raman Effect* and *Theory of Groups and its Application to Physical Problems*.

Bhasin, Prem (b. 1917). General Secretary, Praja Socialist Party since 1965; he was formerly a leader of the Congress Socialist Party; had courted arrest during the national movement.

Bharti, Subramaniam (1882-1921). A fearless South Indian patriot and a great poet of Tamil. He is known for his poems and songs of the Spirit and in praise of the Tamil Mother.

Bhatnagar, S.S. A scientist of repute and a former Director General of Indian Council of Scientific Research; he established a chain of scientific laboratories in India. (*Asstt. Gde.*, 1965)

Bhave, Acharya Vinoba (b. 1895). Father of the Bhoodan Movement; joined Mahatma Gandhi's Sabarmati Ashram in 1916 and was imprisoned many times for the Congress movement; has launched many walking tours (Pad Yatras) to popularise Bhoodan Movement; his present slogan is "Jai Jagat".

(*Baroda Engg.*, 1960)

Birla, G.D. (b. 1894). India's top industrialist and Managing Director of Birla Gwalior Private Ltd.; was member of the second Round Table Conference; awarded the "Padma Vibhushan" in 1957.

Bose, J.C. (1858-1937). Indian physicist, noted for research in plant life; he invented crescograph for measuring plant growth.

Bose, Nandalal. A famous Bengali artist, considered as the father of modern Indian painting; he was Director of Kala Bhawan at Shantiniketan. He died in April 1966.

Bose, Netaji Subhash Chandra (1897-1945). A devoted patriot, an eminent Congress worker and a man of action ; Twice President of Congress (1938-39) ; was put under house arrest in 1941 but escaped and went to Germany via Afghanistan and Turkey. He reached Japan by a German submarine and rushed to Singapore in 1942 to organise the Indian National Army. He is said to have died in an air crash in 1945.

Brahmchari, U.N. He is known for his researches on Kala-azar fever. (I.A.S., 1963)

Cariappa, General K.M. (b. 1900). Educated at Mercara and Madras, he was in the first batch of the Indian cadets, commissioned from Daly College, Indore and also the first Indian to enter the Staff College at Quetta in 1933; saw service in N.W.F.P., Middle East and Burma ; was C-in-C, Indian Army (1949-53); and High Commissioner to Australia and New Zealand (1953-56) ; he is a former President of the All India Council of Sports.

Chagla, Mohomedali Currim (b. 1900). A former Central Minister for Foreign Affairs and Education; was Chief Justice Bombay High Court (1947-58) and *ad hoc* Judge, International Court of Justice (1957); led the Indian delegation to the Security Council during the Kashmir debate (1964) ; was Ambassador to U.S.A. (1958-61) and High Commissioner to U.K. (1961-63) ; Education Minister (1963-66) ; Foreign Minister (1966-67) ; his important books are **Law, Liberty and Life, The Individual and The State and An Ambassador Speaks.**

Chaliha, B.P. (b. 1912). Former Chief Minister of Assam (1957-70) arrested in 1932 and 1942 for the freedom struggle; nominated by Mahatma Gandhi for Khadi work and uplift of rural masses; he has been a member of the Nagaland Peace Mission.

Chanakya (Kautilya) (4th Century B.C.). Originally named Vishnugupta and popularly known as Chanakya or Kautilya, he was extremely well-versed in Indo-Aryan polity. It was mainly by his efforts that Chandragupta came to the throne of Magadha; later he became his Chief Minister. He wrote the *Arthashastra*, a masterly treatise on statecraft and economy.

Chandrasekhar, Dr. Sripati (b. 1918). Former Central Minister for Health (1967-70) ; Director of Demographic Research UNESCO (1947-49) and Editor, *Population Review* ; he is an authority on population growth ; wrote *India's Population, Hungry People and Empty Lands, China's Population.*

Charak (1st Century A.D.). India's ancient physician and surgeon of repute.

Chatterjee, Admiral A.K. (b. 1914). Former Chief of the Naval Staff (1966-70). Joined the Royal Indian Navy as a Cadet in 1933 and received his initial training in the U.K. ; Commanded the Flag Ship INS Delhi (1950) ; appointed Deputy Chief of the Naval Staff in 1958 and Commandant National Defence College (1964-66); Admiral Chatterjee retired in February, 1970.

Chatterjee, N.C. (b. 1895). A prominent lawyer, politician and M.P.; Joined Hindu Mahasabha in 1937 and was its President (1952-57); M.P. Lok Sabha (1952-57) and 1963 onwards.

Chattopadhyaya, Harindranath (b. 1898). Educated at Hyderabad and Cambridge, he is a poet and playwright; a well-travelled man, he represented Indian artists and authors at Moscow in 1951; has written "*Feast of Youth*", *Perfume of Earth* and *Grey Clouds*.

Chattopadhyaya, Mrs. Kamla Devi. A great Indian feminist leader, she was the President of All India Women's Conference (1944-45) and its General Secretary (1926-30). She was awarded the 1966 Ramon Magsaysay Award for promoting cooperative movement in India.

Chaudhuri, General J.N. (b. 1908). Formerly India's High Commissioner in Canada; a former Chief of the Army Staff, a distinguished soldier and hero of many campaigns. He was commissioned from the Sandhurst College in 1928; during World War II, he saw service in Middle East, Africa and Burma and was mentioned in despatches; Military Governor, Hyderabad State (1948-49) and Chief of the Army Staff (1962-66); the Indo-Pak war of 1965 took place during his tenure as Army Chief.

Chavan, Y.B. (b. 1913). Minister for Finance, and a former Minister for Home (1966-70) and Defence (1962-66) and Chief Minister of Maharashtra; participated in the Civil Disobedience movement of 1932 and organised the "Quit India" movement after going underground; negotiated military assistance with U.K., U.S.A. and U.S.S.R. and participated in the Tashkent talks in January 1966.

Cheema, Capt. Autar Singh (b. 1938). Commissioned in 1960; a keen mountaineer, he climbed Mount Everest on 20 May 1965.

Dalmia, Seth Ramkrishna (b. 1893). A prominent industrialist and founder of the Dalmia-Jain group of industries.

Dange, S.A. (b. 1899). Former Chairman, Central Executive and Member, Secretariat of the Communist Party of India (Rightist); imprisoned many times for his trade union activities; has been a Member of Lok Sabha since 1957.

Das, C.R. (1870-1925). An eminent politician, a nationalist, journalist, lawyer and poet; he was one of the founding members of the Swaraj Party.

Das, S.R. (b. 1894). Called to the Bar in 1919; Chief Justice, Punjab High Court (1949); Chief Justice of India (1956-59) and Member University Grants Commission (1962-65); he constituted the one-man Kairon Commission whose report led to drastic changes in the Punjab.

Dayanand, Swami (1827-83). The celebrated Hindu reformer and founder of the Arya Samaj movement; an eminent scholar of Sanskrit and Hindi; he wrote a detailed commentary on comparative religion (Satyarath Prakash) which has been a subject of political and religious controversy. He promoted the cause of untouchables, widow remarriage, etc. etc.

(Baroda Engg., 1960; I.A.S., 1967)

De, Niren. Till recently Solicitor General of India, he is at present Attorney General of India in succession to Mr. C.K. Daphtary who has retired.

Desai, Hitendra K. (b. 1915). A lawyer and a Congressman of long standing, he became the Chief Minister of Gujarat after the death of Balwantrao Mehta in an air crash during the Indo-Pak conflict of 1965. He belongs to the Congress headed by Mr. S. Nijalingappa.

* **Desai, Morarji R. (b. 1896).** A member of Bombay Provincial Service, he resigned in 1930 during the Non-Cooperation Movement; Bombay Home Minister (1946-52) and Chief Minister (1952-56); Central Minister for Commerce and Industry (1956-57) and Finance (1958-63); resigned in 1963 under the Kamraj Plan for party work; after the 1967 election, he was Deputy Prime Minister and Minister for Finance till 19 July, 1969 when he resigned; at present Chairman of the Old Congress Parliamentary Party.

Deshmukh, C.D. (b. 1896). A former member of the ICS; remained Governor of Reserve Bank and Chairman, I.M.F. and I.B.R.D.; M.P. and Finance Minister (1950-56); was Chairman, University Grants Commission (1956-60) and Vice Chancellor, Delhi University (1962-67); he contested the Presidential election in 1969 but was defeated.

Deshmukh, Smt. Durgabai (b. 1910) A scholarly woman (married to C.D. Deshmukh), a successful lawyer and a prominent social worker; a member of the Constituent Assembly, she was also Member of the Planning Commission; she has been Chairman, National Council for Women's Education.

Deshpande, V.G. (b. 1921). A Hindu Mahasabha leader and its former President; courted arrest several times during the Party's movements.

Dhebar, U.N. (b. 1905). A former President of the Congress, a political worker of long standing and at present Chairman, Village and Khadi Industries Commission; was also Chief Minister of Saurashtra (1948-54).

Digvijai Nath, Mahant (1894-1969). He joined Hindu Mahasabha in 1937; Secretary, Vice-President and President of the Sabha (1950-61 and 1968); founder of the Gorakhpur University, he also established many schools and colleges for boys and girls.

Dogra, Pandit G.L. (b. 1915). An important political worker of Jammu and Kashmir; participated in all movements, started by the National Conference; was Chairman State Constituent Assembly's Constitution Drafting Committee and a Minister (1947-57 and 1961-63).

Gadgil, D.R. (b. 1901). Deputy Chairman of the Planning Commission. He has also been Vice-Chancellor of Poona University.

Gajendragadkar, P.B. (b. 1901). A former Chief Justice of India (1964-66), he was Vice-Chancellor of the Bombay University; he had a brilliant academic career and a roaring practice before he became Judge, Bombay High Court in 1945. He is at present Chairman of National Labour Commission.

Gandhi, Mahatma M.K. (1869-1948). Most luminous star in the Indian political sky, a freedom fighter, a rebel, a reformer, a saint and a scholar; he dominated the Indian political scene

from 1915 to 1948, enthused millions of people and made heroes out of humble men; Nehru, Patels, Azad and others were his trusted lieutenants; Khilafat and Non-Cooperation movements (1920), Civil Disobedience movements (1930), the Dandi March and the "Quit India" movement were some of the important political devices he employed to oust the British from the Indian soil; after freedom, he was lovingly called the Father of the Nation; his end came as a martyr at the hands of a fanatical Hindu who fatally shot him on 30 January, 1948. Said Nehru on Mahatma's death "The light has gone out of our lives. There is darkness everywhere."

Gandhi, Smt. Indira (b. 1917). Prime Minister of India since 24 January, 1966 after the tragic death in Tashkent of Lal Bahadur Shastri; the only child of Jawaharlal Nehru, she was educated in Switzerland, Shantiniketan and Oxford; became a Congress worker at an early age and suffered imprisonment during the freedom struggle. She was elected President of the Congress in 1959; was Minister of Information and Broadcasting, Govt. of India (1964-65); during the 1967 general elections she led the party to victory at the Centre and formed her new government.

Ghaffar Khan, Khan Abdul. Popularly known as Frontier Gandhi in the pre-partition days; a staunch nationalist and revolutionary, he was the founder of Red Shirt movement in the NWFP. After partition, he was arrested and detained by Pakistan Govt. for seditious activities for several years before he was released on medical grounds. He went abroad for medical treatment and on way back settled down in Kabul from where he directs the Pakhtoonistan movement. He visited India during 1969-70 to attend Gandhi Centenary celebrations.

Ghosh, Aurobindo (1872-1950). A mystic and a poet who settled down at Pondicherry and founded an Ashram there; educated at Calcutta and Cambridge, he passed the I.C.S. in 1890; instead of opting for the glamour and ease of the civil service, he chose the rigours of political struggle but later retired to Pondicherry. His works include *The Life Divine*, *Essays on Gita*, *Collected Poems*, etc. (Roorkee, 1965)

Giri V.V. (b. 1894) Elected President of India in August, 1969; educated in India and Ireland, he joined the Non-Cooperation movement in 1921; he joined All India Railwaymen's Federation (1927) and was twice President of AIIUC; appointed Central Labour Minister (1952-54) and Governor of U.P. (1958-62), of Kerala (1962-65) and of Mysore (1965-Apr., 1967), was Vice President of India (1967-69); resigned in July 1969 to fight Presidential election as an independent candidate. He won in a photo finish against Congress nominee Sanjiva Reddy.

Gobind Singh, Guru (1666-1708). The tenth and the last Guru of the Sikhs and the founder of the *Khalsa*. He fought against the tyranny of the Mughals and sacrificed his four sons and his numerous followers in the struggle against oppression.

Golwalkar, M.S. (b. 1906). Chief Organiser (Sarsanghchalak) of the Rashtriya Swayamsevak Sangh (R.S.S.); he succeeded Dr. K.B. Hedgewar, founder of the R.S.S. movement.

Gombu, Nawang (b. 1934). Famous mountaineer and Deputy Director of Field Training, Himalayan Mountaineering Institute, Darjeeling. As a member of the successful Indian Everest Expedition of 1963, he reached the top of Mount Everest with the first party.

Gopalan, A.K. (b. 1904). A leader of the C.P.I. (Marxist) and M.P. Lok Sabha since 1952; joined Congress in 1927, the Congress Socialist Party in 1934 and the Communist Party in 1939; was imprisoned in 1941 but escaped and appeared five years later.

Gokhale, G.K. (1866-1915). A great politician, a freedom fighter and an eminent scholar. He became Congress President in 1906; he called Mahatma Gandhi back from South Africa and initiated him into the freedom movement; he founded the Servants of India Society.

Goray, N.G. (b. 1907). He led the first batch of satyagrahis in Goa in 1955 and was imprisoned for ten years but was released in 1957. He is now Chairman of the Praja Socialist Party.

Gyan Singh, Brig. (b. 1918). Leader of the First Indian Expedition to Everest (1960); he was Principal, Himalayan Mountaineering Institute, Darjeeling (1958-62) and later Nehru Institute of Mountaineering, Uttarkashi from which he resigned. He has related the story of the first Indian attempt to climb Mount Everest in his book *Lure of Everest*.

Haider Ali. A strong ruler of Mysore, a sworn enemy of the English and a great administrator. He was the hero of the first two Mysore Wars.

Hidayatullah, M. (b. 1905). A Judge of the Supreme Court since 1958, he was sworn in as the Chief Justice of India on 25 Feb., 1968. He was Chief Justice of Nagpur and M.P. High Courts (1954-58), acted as President of India (20 July-23 Aug., 69). He has published "*Democracy in India and the Judicial Process*". He is due for retirement in December, 1970.

Hukam Singh (b. 1895). Governor of Rajasthan and ex-Speaker, Lok Sabha (1962-67); he was a Member of the Constituent Assembly and of Lok Sabha (1952-67); remained Deputy Speaker, Lok Sabha (1956-62). He was President, Akali Dal (1950). However, he fought the 1962 election on Congress ticket.

Husain, Dr. Zakir (1897-1969). Former President of India (1967-69) and Vice President (1962-67). Educated at Aligarh and Berlin Universities, he was Vice Chancellor, Jamia Millia, Delhi (1926-48); he was President, Hindustani Talimi Sangh, Sevagram (1938-50) when he evolved and perfected the Wardha Scheme of Basic Education; he was Governor of Bihar (1957-62); went on various goodwill missions to the Middle East countries. His Publications include *Shiksha (Hindi)*, *An Essay in Understanding*, translation into Urdu of Plato's *Republic* etc. etc. He was awarded "Padma Vibhushan" in 1954 and "Bharat Ratna" in 1963. He died on 3 May, 1969.

Iqbal, Dr. Sir Mohd. Greatest Urdu poet after Ghalib, a philosopher and a visionary; his earlier poems were marked for simplicity and patriotic appeal but his later works became heavy

and philosophical with strong Islamic appeal. Some say that it was he who gave the Muslims the concept of separate nationhood.

Jagjit Singh. An eminent scientist and author. He won the Kalinga Award in 1963 ; at present Chairman, Drugs and Pharmaceuticals Ltd. (I.A.S., 1964)

Jain, A.P. (b. 1902). A member of the AICC Working Committee for many years; Member Constituent Assembly; he was Central Minister of Rehabilitation (1950-54), of Food and Agriculture (1954-59) and Governor of Kerala (1965-66). He has written *Rafi Ahmad Kidwai—Memoirs of his Life and Times*. At present he heads the Irrigation Commission.

Jaykar, M.R. An eminent constitutional pundit and a member of the Swaraj Party ; he made efforts to bring the government and the nationalist leaders together but was not successful ; was a member of the Round Table Conference. He was also a Judge of the Federal Court.

Jinnah, Mohamad Ali (1876-1948). Founder Governor General of Pakistan ; called to the Bar in 1896, he started his practice in Bombay ; he became a nationalist and advocated Hindu-Muslim unity but later drifted apart ; when he assumed control of the Muslim League in the thirties, he developed separatist tendencies. He became the first Governor General of Pakistan but died about a year later. He was the architect of famous "Two-Nation" theory.

Joshi, P.C. (b. 1908). Communist leader and journalist; edited *New Age* ; joined Communist Party in 1928, was jailed for 5 years for taking part in the (1929) Meerut-Conspiracy Case ; General Secretary of the Communist Party (1934-47) ; has written "*1857 Rebellion*."

Joshi, S.M. (b. 1904). A former Chairman, Samyukta Socialist Party and a great revolutionary who took part in the freedom struggle and suffered many jail terms. He is General Secretary of the All India Defence Employees Federation.

Kabir, Humayun (1906-69). Educated at Calcutta and Oxford, he was a Central Minister (1957-65) ; Formerly Chairman of the University Grants Commission ; he left the Congress Party and formed the Bangla Congress ; was author of several books in Bengali and English. He died in Aug., 1969.

Kalekar, Kaka (Acharya Kakasaheb) (b. 1885). An eminent social worker and academician ; was President Hindustani Talimi Sangh till 1957 ; he was the Chairman of the Backward Classes Commission (1953-55) ; is president or patron of numerous literary societies ; he was awarded "Padma Vibhushan" in 1964. His book *Jeevan Vyavastha* won the National Award for 1960.

Kamath, H.V. (b. 1907). Educated at Madras and London, he was an I.C.S. Officer (1930-39) but resigned and became Secretary, National Planning Committee (with Nehru as Chairman); was a Member of the Constituent Assembly and of Lok Sabha (1946-52 and 1962-67) ; he was defeated in the 1967 general election.

Kamraj, K. (b. 1903). M.P., Member CWC (headed by S. Nijalingappa) and a former Congress President (1964-67) ; participated in the freedom struggle and suffered various terms of

imprisonment ; was Chief Minister of Tamil Nadu (1954-63) ; under Kamraj Plan, he himself stepped down from the Chief Ministership and devoted himself to party work. He was elected to Parliament in 1969.

Karan Singh, Dr. (b.1931). Son of late Maharaja Hari Singh of Jammu and Kashmir and ex-Governor of Kashmir ; he is at present the Central Minister for Tourism and Civil Aviation ; he became Head of the J. & K. State in 1949 and continued till April, 1967.

Karve, D.K. (1858-1962). Recipient of "Bharat Ratna" in 1958 ; he was a great educationist and social worker ; did pioneer work in the field of women's education.

Katju, Dr. K.N. (1887-1968). An eminent lawyer, he was a Minister in the Congress Ministries of U.P. (1937 and 1946) ; was Governor of Orissa and West Bengal (1947-51) and Central Minister for Home and Defence (1951-56). He was Chief Minister of Madhya Pradesh (1957-1962). He died on 17 Feb., 1968.

Kaul, B.M. A retired Indian Army General, who commanded the troops that suffered reverses at the hands of Chinese in NEFA in 1962. His book *The Untold Story*, representing his own version of the Indian discomfiture and the reasons therefor, had created sensation on publication in 1967.

Khan, Bade Ghulam Ali (d. 1968). A distinguished exponent of Hindustani music and a recipient of Padma Bhushan (1962). He died on 23 April, 1968.

Khare, N.B. (1884-1970). He was the first Chief Minister of M.P. (then C.P.) (1937-38). Member, Viceroy's Executive Council (1943-46) ; was elected President of Hindu Mahasabha (1949-51) and was elected to the Lok Sabha in 1952. His publications include *Nehru as I Know*, *Khare Vs. Nehru* and *Azad's Autobiography Autopsied*.

Kidwai, Rafi Ahmad (1894-1954). An efficient and most popular Central Food Minister and a man of action ; a front-rank freedom fighter, he was also a devoted public servant ; during his ministership, food shortages had been completely absent, foodgrains were cheap and outlook was never gloomy.

Kothari, Dr. D.S. (b.1888). Educated in India and Cambridge, he is one of the top physicists of the country ; a former Chairman, Education Commission, he is at present Chairman of the University Grants Commission.

Kripalani, J.B. (b. 1888). A lecturer by profession, he left his job in 1912 to devote himself for political work under Gandhiji ; participated in all the national movements and was imprisoned several times ; was Congress General Secretary (1934-46) and President (1946-47) ; left Congress in 1947 and organised Krishak Mazdoor Praja Party ; was Chairman of P.S.P. till 1954 but left it in 1960. He has been Member Lok Sabha (1957-62) and again since 1963.

Kripalani, Smt. Sucheta (b. 1908). An active Congress worker : resigned Congress in 1951 but rejoined in 1958 ; General Secretary, AICC (1958-60) ; was Chief Minister of U.P. (1963-1967).

She was defeated in the 1967 general elections. She belongs to the Congress headed by Mr S. Nijalingappa.

Krishnan, Dr. K S. (d. 1961) One of India's top scientists, he collaborated with another eminent scientist, C V Raman and evolved the *Raman Effect*. He was Director, National Physical Laboratory, New Delhi.

Kumaramangalam, Gen P P (b. 1913) Commissioned in 1933, saw action in West Asia and was taken prisoner twice (having escaped once), was G O C-in-C Eastern Command (1963-64) and Deputy Chief of the Army Staff (1964-65). He was awarded D S O for meritorious service in World War II. He was Chief of the Army Staff (June, 1966-June, 1969).

Kunzru, Pandit H N (b. 1887) A great patriot, social worker and statesman. He served on the States Reorganisation Commission of 1956. He is a Member of the Rajya Sabha.

Lajpat Rai, Lala (1865-1928) A great revolutionary and an untiring political worker, exiled from India, the Lala lived for several years in America. He was responsible for organising widespread agitation against the Simon Commission in 1928; he received grievous injuries when a procession that he was leading was mercilessly lathi-charged. Later he died of these wounds.

Lakshmi Bai, Rani of Jhansi A great fighter for India's freedom, she died in the battle field while leading her troops against the British in 1857.

Liaquat Ali Khan (1895-1951) A prominent leader of the Muslim League and the first Prime Minister of Pakistan. Educated in India and Oxford, he headed the Muslim League (1946-47) and with the creation of Pakistan he was appointed the Prime Minister; he was assassinated by an Afghan in October 1951.

Lohia, Dr. Ram Manohar (1910-1967) Educated in India and Germany, Lohia joined the Congress movement in early life and took prominent part in the "Quit India" movement in 1942; joined the P S P in 1953 but left it in 1956 and formed the Socialist Party; he was M P from 1963 to 1967. He died in Oct. 1967.

Mahajan, Mehr Chand Former Chief Justice of India. He headed the Boundary Commission on the border dispute between Maharashtra and Mysore. His report on the dispute was made public in Nov., 1967. He died on 11 Dec. 1967.

Mahalanobis, P C (b. 1893) Educated at Calcutta and Cambridge, he has been Statistical Adviser to many govt. committees and commissions; he is an ex-Member of the Planning Commission.

Mahatab, Harekrishna (b. 1899) Participated in the Non-Cooperation movement in 1920; he was Chief Minister of Orissa (1947-50 and 1957-61); he left the Congress in 1966.

Mahavira (550-468 B.C.) Born at Kundagrama a suburb of Vaishali, Mahavira renounced the world at the age of 30; attained true knowledge in 508 B.C. having freed himself from the chain of pleasure and pain, he was called Mahavira; he preached observance of chastity, ahimsa, Moksha, Tapasya (penance), Dhyana (contemplation) and self-mortification; Mahavira was called Jina, the conqueror, and his followers were known as Jaina.

Mahesh Yogi, Maharishi. Indian yogi and exponent of "transcendental meditation"; he took the London masses by storm in 1967. His disciples at one time included the famous pop singers, the Beatles. (I.T.I., 1968)

Malaviya, Madan Mohan (1861-1946). An eminent lawyer and twice President of Indian National Congress; he founded the Banaras Hindu University and remained its Vice Chancellor for many years; he was a great nationalist and freedom fighter.

Malaviya, K.D. (b. 1903). Son of Pt. Madan Mohan Malaviya; joined the freedom movement in 1921 and courted arrest many times; was Central Minister of Mines and Fuels (1957-63), when he resigned from the Ministry. Former Chairman HEC, Ranchi.

Manu. The great ancient Hindu lawgiver who divided the Hindu Society in four distinct groups namely the Brahmans, Kshatriyas, Vaishyas and Sudras. He prescribed a ritual and a code of conduct for daily life.

Masani, M.R. (b. 1905). Educated at Bombay and London; founded the Congress Socialist Party in 1934 but left it in 1939; he has been an M.P. since 1951 and is associated with the Tata Industries; one of the founders of the Swatantra Party, he is at present its Chairman; he has written many books.

Mehta, Ashok (b. 1911). One of the founders of the Congress Socialist Party and P.S.P. He was Secretary and Chairman, P.S.P. (1959-63), Deputy Chairman Planning Commission (1963-66), Minister for Petroleum and Chemicals (1966-68). He resigned on 22 August, 1968 because of differences with the government on Czechoslovakian issue.

Mehta, Sir Phirozshah. A prominent Parsee nationalist and President of the Indian National Congress (1890).

Menon, K.P.S. (b. 1898). Educated at Madras and Oxford, he joined ICS in 1921; he was Agent General in China (1943-47) and later an Ambassador; Secretary Ministry of External Affairs (1948-52), later Ambassador to the U.S.S.R.; awarded "Padma Bhushan" in 1958; has written *Delhi-Chungking*, *Russian Panorama*.

Menon, V.K. Krishna (b. 1897). A former Minister of Defence; educated at Madras and London, he was Secretary of the India League (1929-47); India's High Commissioner in London (1947-52); Chief of Delegation to the UNO (1952-62); Defence Minister (1957-62) but resigned after Indian reverses in NEFA and Ladakh in 1962. Left Congress in 1966; twice defeated in 1967 election from Bombay, he was elected to Parliament from West Bengal in 1969.

Mihir Sen (b. 1930). The world famous Indian long distance ocean swimmer. He has already crossed the English Channel, the Palk Strait (separating India from Ceylon), the Straits of Gibraltar, Dardanneles, Bosphorous and the Panama Canal.

(Asstt. Gde., 1967)

Milkha Singh (b. 1935). The "Flying Sikh" and India's fastest quarter-miler; won gold medals at the III Asian Games in 200 and 400 metres and at the Commonwealth Games (440 yds.);

participated in the 1960 Olympics at Rome and finished fourth but won two gold medals at the IV Asian Games at Jakarta.

Moraes, Frank (Francis Robert) (b. 1907). Educated at Bombay and Oxford; he is at present Editor-in-Chief of the *Indian Express*; was War Correspondent (1942-45) in the Burma-China theatre; he has written many books including *Jawaharlal Nehru, Story of India, The Revolt in Tibet*.

Mookerjee, Dr. S.P. (1901-53). Founder President of Jana Sangh. Earlier, a great Hindu Mahasabha leader and also its President; was Central Minister for Industries and Supplies (1947-50); died in Srinagar in 1953 while under detention.

Mudaliar, Sir A. Ramaswami (b. 1887). He was Member, Viceroy's Executive Council (1939-43) and Dewan of Mysore State (1946-49). He later became Vice Chancellor, Travancore University. He was also a Member of Rajya Sabha.

Mukerjee, Ajoy. Twice Chief Minister of West Bengal (1967 and 1969-70). Both times he headed the U.F. Ministry. A former Congressman, Mr. Mukerjee took part in all national movements. He left Congress in 1966 due to differences with the provincial leadership.

Munshi, K.M. (b. 1887). Member, Bombay Legislative Council (1927-46) and its Home Minister (1937-39). He was Central Food Minister (1950-52) and Governor of U.P. (1952-57); having left the Congress, he is now in Swatantra Party and its Vice President; he has written many books in English and Gujarati.

Musafir, Giani Gurmukh Singh (b. 1899). Ex-Chief Minister of Punjab (1966-67); participated in all Congress movements and simultaneously devoted himself to poetry and journalism in Punjabi, was M.P. Lok Sabha (1952-66); defeated in the 1967 election.

Naicker, E.V. Ramaswami. A Dravida Kazhagam leader who had campaigned for the establishment of an independent country called **Dravidstan**, constituting the areas where the Dravidian group of languages, Tamil, Telugu, Malayalam, Kannada etc. are spoken.

Naidu, Kumari Padmaja (b. 1900). Having joined Congress in 1929, she was arrested for political activities in 1942, she was Governor of West Bengal from 1956 to 1967.

Naidu, Smt. Sarojini (1879-1948). Nicknamed "Nightingale of India", Smt. Naidu was a zealous Congress worker and the organisation's first woman President (1925). She participated in all the movements and was imprisoned several times. She was Governor of U.P. (1947-48) when she died.

Namboodiripad, E.M.S. (b. 1909) A top Marxist Communist leader; joined the freedom movement in 1932 and organised the Kerala Congress Socialist Party in 1934 but later joined the Communist Party; was Chief Minister, Kerala (1957-59) but was dismissed. After the 1967 general election he headed a coalition Ministry in Kerala which fell in Oct. 1969.

Nanda, Gulzari Lal (b. 1898). Dy. Chairman, Planning Commission and later Central Minister of Planning (1950-63); was Central Home Minister (1963-66). He resigned in November, 1966. He was brought back to the Cabinet on 17 Feb., 1970 as the Railway Minister.

Nanak Dev, Guru (1469-1539). Born at Talwandi (Now Nanakana Sahib, in the Sheikhupura Distt. of West Pakistan); he was the Punjabi representative of the Bhakti Movement of the 15th and 16th Century; he travelled from Assam to Constantinople, the erstwhile seat of Greek learning, and Mecca and Medina, the sacred places of the Muslims. He is also said to have gone to Tibet after crossing the Himalayas. A sworn enemy of superstition, dogma and ignorance, he preached universal brotherhood and monotheism (oneness of God) and fought against tyranny, religious bigotry and all kinds of formalism and ritualism. He founded the Sikh religion. (*N.D.A., 1966 ; P.C.S., 1963*)

Naoroji, Dadabhai (1825-1917). A great nationalist and thrice President of Indian National Congress ; he was also the first Indian to be a Member of the House of Commons. He was known as the Grand Old Man of India. (*Sienos, 1968*)

Narain, Jaya Prakash (b. 1902). Sarvodaya leader and a pacifist, during the freedom struggle he was known for his revolutionary ideas; formed the Congress Socialist Party in 1934; detained under the Defence of India Act in 1939 but escaped and remained underground till 1946; resigned from the Congress in 1947 and formed Praja Socialist Party in 1952. Later, he retired from political life and joined Vinoba Bhave's Bhoodan and Sarvodaya movements.

Narlikar, Dr. Jayant Vishnu (b. 1938). Educated at Banaras and Cambridge Universities ; he has propounded the new theory of gravity in collaboration with Prof. Hoyle; the theory is said to have superseded the Relativity theory of Einstein. (*I.T.I., 1966*)

Nehru, Jawaharlal (1889-1964). One of the greatest sons of India, a nationalist, a freedom fighter and a great statesman ; the first Prime Minister of India, he died in harness ; educated at Allahabad and in England ; after the massacre of Jalianwala Bagh, he plunged himself in the freedom struggle ; courted arrest numerous times; he was always in the thick of the struggle, fighting and suffering till he led the nation to freedom in 1947. The 1929-resolution of the Congress demanding Purna Swaraj was passed under his Presidentship ; after independence, he was the architect of modern India. An apostle of peace, he was the author of the concepts of non-alignment and Panch Sheel; scrupulously secular and spotlessly honest, he was an ideal Indian ; he was a great writer of delightful poetic prose. He is universally known for his books *Glimpses of World History, Autobiography* and *Discovery of India*.

Nehru, Moti Lal (1861-1931). An eminent lawyer, a nationalist and leader of the Swaraj Party ; he founded the aggressively nationalist paper "Independent" and was twice Congress President (1919 and 1928). He endorsed Gandhiji's non-cooperation and civil disobedience movements.

Norgay, Sherpa Tenzing (b. 1914). Recipient of "Padma Bhushan" and a great mountaineer ; he has participated in a great number of Everest expeditions since the Shipton expedition in 1935; conquered the Everest along with the New Zealander Sir Edmund Hillary on 29 May, 1953. For this feat of courage and heroism, he has been honoured by the governments. of UK, USA, USSR, Iran and France.

Onkar Nath Thakur (1897-1967). The world famous exponent of Indian classical music. (*UPSC Clerks Gde. 1963*)

Pandit, Smt. Vijayalakshmi (b. 1900). Celebrated sister of Jawaharlal Nehru; was U.P. Minister for Public Health (1936 and 1946). She led the Indian delegations to UNO in 1946, 1947 and 1963, was Ambassador to USSR (1947-49) ; to USA (1949-52), High Commissioner in UK (1956-62) ; President of the UN General Assembly (1953-54) ; was Governor of Maharashtra (1962-64) but resigned and was elected to the Lok Sabha ; again elected as M.P. in 1967, but resigned in 1968.

Pannikar, Sardar K.M. (1865-1964). A famous historian, diplomat and writer; he was India's Ambassador to China (1949-52), to Egypt (1956-57) and to France (1957-59). He was a member of the States Reorganization Commission (1953-55).

Pant, Gobind Ballabh (1887-1961). A prominent Congress leader ; participated in all the freedom movements ; headed the Congress Ministries in U.P. (1937-39) and (1947-54) when Nehru brought him to the Centre as Home Minister. During his Central Ministership, the States Reorganisation Bill was passed and the Regional Formula for the Punjab was evolved.

Patañjali. He lived during the reign of Agamitra in the post-Mauryan period. His works include a scholarly commentary on Panini's grammar and *Yoga Shastra*.

Patel, Sardar Vallabhbhai (1875-1950). A freedom fighter par excellence, an unquestioned leader, an excellent administrator and an unruffled politician ; he was the "Iron Man" of India ; during the freedom struggle, he waged a ruthless fight against the British; after partition, he brought about integration of States with tact and determination ; as Home Minister, he was extremely successful.

Patil, S.K. (b. 1900). Joined the Civil Disobedience movement and all the movements that followed and was imprisoned 8 times ; he was Central Minister for Food (1959-63); resigned under the Kamraj Plan but was Central Minister again (1964-67) defeated in 1967 election from Bombay but was elected to Parliament from Gujarat in 1969. He belongs to the Congress, headed by Mr. Nijalingappa.

Phizo, Z.A. The rebel Naga leader who is now a British National. He continues to direct the rebel movement in Nagaland. (*I.A.S., 1957*)

Prithviraj Kapoor (b. 1906). The famous screen and stage actor. He was a Member of Rajya Sabha (1952-56).

Radhakrishnan, Dr. S. (b. 1888). A former Vice President (1952—1962) and President (1962-67) of India, a scholarly statesman, a gifted writer and a great philosopher ; educated at Madras, he was Vice-Chancellor of Banaras Hindu University (1937-49) ; Ambassador to USSR (1949-52). A well travelled man, he is one of the greatest philosophers of present time and an authority on oriental philosophy.

Rajagopalachari, C. (b. 1879). A farsighted, elder statesman with political realism ; joined the freedom struggle in 1919 and was actively engaged in all Congress Movements ; he headed the

Congress Ministry in Madras in 1937 ; due to difference of opinion on Indian participation in World War II, he left the Congress in 1942 but returned in 1945 ; remained Governor General (1948-50) and Madras Chief Minister (1952-54). He was awarded "Bharat Ratna" in 1955. He is one of the founders of Swatantra Party.

Raja Rammohan Roy (1772-1833). An Arabic, Persian and Sanskrit scholar, he was the embodiment of India's new spirit. A contemporary of Lord Bentinck, he founded the Brahmo Samaj in 1828 and ruthlessly fought against the social evil of sati. He freely advocated widow re-marriage. He was also a pioneer of English education.

Rajendra Prasad, Dr. (1884-1963). First President of India (1952-62), a quiet but scholarly statesman; he joined the freedom struggle quite early and patiently suffered its hardships ; was twice elected President of the Congress. He was President of the Constituent Assembly (1946-49) and later first President of the Republic.

Ramakrishna Pranhansa. The famous 19th century saint and the *Guru* of Vivekananda.

Raman, Sir C.V. (b. 1888). Educated at Madras; he became Fellow of the Royal Society in 1924; having discovered the "Raman Effect" in 1928, he was awarded the Nobel Prize for Physics in 1930 ; he founded the Raman Institute, Bangalore in 1943 ; was awarded Bharat Ratna in 1954 and Lenin Peace Prize (1957). He is National Professor (Physics) of India since 1949.

Ranga, Prof. N.G. (b. 1900). Educated at Oxford, he became Member Congress Working Committee (1947-51) but resigned from the Party and formed Krishikar Lok Party ; former Chairman of the Swatantra Party. Member of the Lok Sabha since 1962, he is the leader of the Swatantra group in the Parliament.

Ranjit Singhji (1872-1933). Famous Indian cricketer in whose memory were instituted the Ranji Trophy matches for national cricket championship. The Trophy was donated by the Maharaja of Patiala.

Rao, K.L. (b. 1902). He was President Central Board of Irrigation and power till 1962 when he entered Parliament ; in 1963, he was awarded Padma Bhushan; he was appointed Central Minister for Irrigation and Power in Jan., 1966.

Rao, V.K.R.V. (b. 1908). A renowned economist and a former Head of the Department of Economics, Delhi University, Vice Chancellor of Delhi University (1957-60), Member Planning Commission (1963-1967); Central Minister for Transport and Shipping (1967-69) and for Education and Youth Services from Feb. 1969.

Ravi Shankar (b. 1920). The world famous sitar player. Mainly responsible for introducing Indian music in the West, he has recently been accepted as a preceptor of Jazz and Pop musicians.

Ray, Satyajit (b. 1922). The world famous producer and director of films. His picture *Pathar Panchali* has won the maximum number of awards in foreign festivals in Europe and America. He was awarded Padma Shri in 1958 and Padma Bhushan in 1965.

Reddy, Sanjiva (b. 1913). Former Speaker of Lok Sabha (1967-69). Having started his political career as the Secretary of

Andhra PCC (1936-46), he rose to be a Minister of the Madras Government (1949-51), Chief Minister of Andhra (1956-60) and Congress President (1960-62). He remained the Union Minister for Steel and Mines (1964-65) and for Transport and Civil Aviation (1965-67). He was defeated in the Presidential election in Aug. 1969.

Sadiq, Ghulam Mohammad (b. 1912). Chief Minister of J and K. (from Feb. 1964); was President J and K Constituent Assembly (1951) and the State Development Minister (1948-51); in 1957, he formed the Democratic National Conference but returned to the National Conference in 1961. He left the National Conference again to organise the Congress in the State.

Saha, Dr. Meghnad (1893-1956). Famous Indian Scientist and founder of the Institute of Nuclear Academy of Sciences in India. He was also a Member of Lok Sabha.

Sapru, Sir Tej Bahadur (1875-1948). A former Member of the Governor General's Executive Council, he was also an eminent lawyer. On occasions, he tried to resolve differences between the British Government and the national leaders.

Sarabhai, Dr. Vikram (b. 1919). Chairman Atomic Energy Commission and Secretary, Department of Atomic Energy. Educated at Ahmedabad and Cambridge, he received his Doctorate from the University of Cambridge in 1947, having already worked under C.V. Raman for six years. He organised the Equatorial Rocket-1 launching Station at Thumba; he was awarded "Padma Bhushan" in 1966.

Savarkar, V.D. (1883-1966). Hero of the Nasik Conspiracy Case, a zealous patriot and a great revolutionary. He served a 15-year term of imprisonment in the Andamans and was set free in 1937. He was a prominent leader of the Hindu Mahasabha; he is the author of *Indian War of Independence*.

Setalvad M.C. (b. 1884). Attorney General of India (1950-62) and recipient of "Padma Vibhushan" (1957); was Member of the Indian delegation to UN General Assembly (1947, 48) to Security Council (1948, 52) and headed the Indian delegation to the UN General Assembly (1949).

Shankaracharya (788-820). The greatest exponent of Hinduism in the 9th Century. A Namboodari Brahmin from Malabar, he travelled throughout the country and established four monasteries (Maths) for propagating the faith. He was an intellectual giant, invincible in debate and argument. A sworn enemy of Buddhism, he revived the glory of Vedantism.

Shastri, Lal Bahadur (1904-1966). Educated at Kashi Vidyapeeth, he joined the freedom struggle early in life; after serving as a Minister in U.P., was called to the Centre as Railway Minister; he resigned when a major railway accident occurred. Later, he served as Home Minister and Minister without portfolio at the Centre. When he took over as Prime Minister in June, 1964, the country faced various threats; India fought her war with Pakistan in 1965 under Lal Bahadur's overall leadership. He negotiated and concluded peace agreement with Pakistan in January, 1966 at Tashkent but died of heart failure a few hours after its signing. He was awarded "Bharat Ratna" posthumously.

Sonam Gyatso (1928-68). A member of the Indian expedition to Mount Everest led by Lt. Comdr. M.S. Kohli, he scaled the peak on 22 May, 1965. Recipient of Arjuna Award and Padma Bhushan; he died at Delhi on 22 April, 1968 of a liver ailment.

Subbarao, K. (b. 1902). Having started as an Advocate in 1926, he was appointed Judge of the Madras High Court in 1948; was Judge, Supreme Court (1958-66) and Chief Justice of India (1966-67). He resigned in April, 1967 and, as a candidate of the opposition parties, fought the Presidential election but lost to Dr. Zakir Hussain, the Congress candidate.

Subbulakshmi, Smt. M.S. (b. 1916). Classical Carnatic musician. She was awarded "Padma Bhushan" in 1954 and the President's Award for Carnatic Music in 1956.

Sudarsban, George. An eminent Indian scientist in the USA, at present engaged on important research to prove that particles (of matter) can, in fact, travel faster than the light, thus disproving universally accepted theory of Einstein.

Sukhadia, Mohanlal (b. 1916). Congress Chief Minister of Rajasthan since 1954; in the 1967 election, his party, though the largest group, failed to gain majority and consequently Presidential rule was imposed in the State; he, however, mustered majority support soon after and was installed Chief Minister on 26 April, 1967.

Swaran Singh (b. 1907). Educated at Lahore, he was a Minister in the Punjab Government (1947-52), and Union Minister for Works, Housing and Supply (1952-57), Steel (1957-62), Railways (1962-63), Food (1963-64), External Affairs (1964-66) and Defence (1966-70). He is Minister for External Affairs since July, 1970. He was leader of the Indian delegation that negotiated with Pakistan to resolve the border disputes (1960-64).

Tagore, Rabindranath (1861-1941). One of the greatest writers of India and a celebrated lyric poet. His poetry reveals a keen sense of beauties of nature and is steeped in religious and philosophical speculation. His dramas tell of a deep love for the children. He was awarded the Nobel Prize for Literature in 1913. In 1901, he founded Shantiniketan which later became a University. He was a prolific writer and produced about 100 books of verse and another hundred volumes of drama and fiction.

Tandon, Purshotamdas (d. 1962). He took part in all freedom movements and was imprisoned many times; was President of Indian National Congress (1950-51) but resigned due to differences with Jawaharlal Nehru. He was awarded Bharat Ratna in 1961.

Tantia Tope. A great military leader in the Nana's employ and later an important commander of Rani of Jhansi's forces. He was captured while fighting the English in 1857 and later hanged.

Tara Singh, Master (1885-1967). The veteran Akali leader; several times President of Akali Dal, he was arrested in 1960 for the Puniabi Suba movement; undertook a fast unto death in 1961; he died in Nov., 1967. Prime Minister Indira Gandhi described him a "colourful personality."

Tata, Jamshedji (1839-1904). Parsee industrialist and philanthropist. He established the Tata Iron and Steel Company in 1907 which started production in 1911.

Thimayya, Gen. K.S. (1906-65). One of the most famous Indian Army Officers; trained at Sandhurst; he rendered distinguished service during World War II; after independence, he commanded troops in Jammu and Kashmir and was later sent on an international assignment with the Repatriation Commission in Korea; he was Chief of the Army Staff (1957-62) and after retirement was Commander of the UN forces in Cyprus where he died in harness (of heart failure) in 1965. (S.C.R.A., 1966)

Thyagaraja. A great exponent of Carnatic music.

(I.A.S., 1958)

Tilak, Balgangadhar (1856-1920). A gifted writer, a great patriot and an important Congress leader; known for his theory of the Arctic Origin of Aryans, he also wrote a detailed commentary on Gita. He declared "Swaraj is my birthright and I will have it."

Todar Mal, Raja. A great soldier and a revenue official in the employ of Sher Shah Suri (1540-45); was later appointed as the highest revenue official and designated as Diwan-i-Ashraf by Akbar.

Tyagi, Mahavir (b. 1900). A former Central Minister for Defence Production and for Rehabilitation. He was a Member of Constituent Assembly as well as of Lok Sabha from 1952 to 1967; he was defeated in the 1967 elections. Later he headed the Fifth Finance Commission. He now belongs to the Congress, headed by Mr. Nijalingappa.

Uday Shankar. Educated at Banaras, Bombay and London, he joined the troupe of famous Russian dancer Anna Pavlova. Later, he organised his own troupe and toured almost all the Western countries. He is considered as the greatest classical dancer of modern India.

Upadhya, Din Dayal (1917-68). President of Bharatya Jana Sangh who was murdered on 11 February, 1968. Earlier, he was Secretary of the Party for 14 years. Quiet and publicity-shy, he was considered to be the silent builder of the Sangh and solely responsible for its emergence as a political force.

Vajpayee, A.B. (b. 1926). A member of R.S.S., he joined the Jana Sangh in 1951 and was elected to the Lok Sabha in 1957 and 1967 and to the Rajya Sabha in 1962. He is at present President of the Jana Sangh.

Visvesvaraya, Sir M. (1861-1963). India's great engineering genius and centenarian; he was awarded "Bharat Ratna" in 1955.

Vivekananda, Swami (1862-1902). Founder of Ramakrishna Mission and a great scholar; a man of dynamic energy and inspiring personality, he preached the supremacy of Vedantism; he was in fact a bridge between India's past and its present. He was the first "Hindu whose personality won demonstrative recognition abroad for India's ancient civilization."

Wanchoo, Justice Kailash Nath (b. 1903). Chief Justice of India (1967-68); was Judge Allahabad High Court (1947-51); Chief Justice Rajasthan High Court (1951-58); Member Law Commission (1955); and Judge Supreme Court (1958-67). He retired in Feb., 1968.

Zafar, Bahadur Shah. Last of the Mughal emperors of Delhi. He was exiled to Burma for his complicity in the rebellion of 1857. He died at Rangoon unsung and unmourned.

Zakaria, Dr. Rafiq (b. 1920). Educated at Poona, Bombay and London, he is at present a Minister in the Maharashtra Government. He has written *A Study of Nehru* which has been popular with Indian readers.

Zakir Husain (1897-1969). see under Husain, Dr. Zakir.

CHAPTER 10

IMPORTANT WORLD PERSONALITIES

Abernathy, Rev. Ralph. American Negro leader who has, after the assassination of Dr. Martin Luther King, assumed leadership of the Southern Christian Leadership Conference. He was the hero of the Montgomery bus boycott of 1955.

Adenauer, Dr. Konrad (1876-1967). German statesman; founded Christian Democratic Union in 1945; remained Chancellor of West Germany 1949-63; a great protagonist of German reunification, he championed West European cooperation.

Al-Beruni (Born 973 A. D.). His real name was Abu Rihan ; he came to India along with Mahmud of Ghazni, studied Indian conditions and later wrote a vivid account of them; according to him, Sati and child marriage were widely prevalent in India; he praised the Upanishadas.

Alexander the Great (356-323 B.C.). One of the greatest generals of all time and also a great romantic figure, King of Macedon (336-323 B.C.); captured Egypt, Asia Minor, overthrew Persian empire and invaded India but his men refused to go further. Died at Babylon on way back to his country.

Ampere, Andre (1775-1836). French physicist and mathematician; worked in electrodynamics and derived the Ampere's Law; studied relationship of electricity and magnetism.

Amundsen, Ronald. (1872-1928). Norwegian polar explorer; first to reach South Pole (1911); later in 1926, flew over the North Pole.

Angell, Sir Norman (1874-1967). British journalist and author; became famous after writing "*The Great Illusion*", an analysis of the ruinous effects of war; also wrote "*The Fruits of Victory*", "*The Story of Money*" etc. etc.; he received Nobel Peace Prize in 1933.

Archimedes (287-212 B.C.). Greek mathematician, physicist and inventor; discovered the principle of specific gravity (Archimede's Principle) and invented Archimede's Screw; also discovered the use of lever.

Aristophanes (448-388 B.C.). Greek poet and dramatist; Wrote 54 plays but only 11 are extant; his comedies are a mixture of political, social and literary satire; important works are *The Clouds*, *The Wasps*, *The Birds*, *Lysistrata* and *The Frogs*.

Aristotle (384-322 B.C.) Greek philosopher, pupil of Plato and a tutor to Alexander; greatest thinker and intellectual, he greatly influenced European thought; wrote the celebrated **Poetics**, **Politics** and **Ethics**.

Arkwright, Sir Richard (1732-92). English inventor of the spinning machine; later he was the first to use steam power. His machine was an early step towards the industrial revolution.

Ataturk, Kemal (Ghazi Mustafa Kemal Pasha) (1880-1938). Turkish soldier, statesman and President of the Turkish Republic : set up a nationalist govt. in Angora (1922) ; abolished the office of

the Sultan and retrieved his lost territory by Treaty of Lausanne (1923) : same year he became President and introduced social and religious reforms ; he changed the very face of Turkey.

Attlee (1883-1967). British Labour leader and Prime Minister (1945-51) ; in 1951 he became the opposition leader ; retired from active politics in 1955 and became Earl Attlee ; India was freed during his Prime Ministership ; he remained a good friend of India.

Ayub Khan, Field Marshal Mohd. A former President and C-in-C of Pakistan Army who captured power in 1958 ; he was President of the country till 25 March, 1969 when he stepped down and handed over power to Gen. Yahya Khan.

Baden Powell (1857-1941). English soldier who in 1908 founded the Boy Scouts movement. (*I.T.I., 1966*)

Baird, J. L. (1888-1946). Scottish inventor of television ; first demonstration was made in 1926.

Banda, Dr. Hastings (b. 1905). The famous African leader ; he is at present President of Malawi (Nyasaland).

Bandaranaike. Smt. Sirimavo. Prime Minister of Ceylon (1960-65) and from 29 May, 1970 ; the first woman Prime Minister in the world, she succeeded her husband as Prime Minister after his assassination in 1960. In December, 1962 she convened the six-nation Colombo Conference to help resolve the Sino-Indian dispute. After 1970 elections, she formed a coalition Govt.

Banting, F.G. (1891-1941). Canadian physician and scientist, who discovered insulin ; was awarded Nobel Prize in physiology and medicine in 1923.

Barnard Christian. The South African surgeon who performed heart transplant surgery on Philip Blaiberg, a dentist of Cape Town and the longest surviving heart transplant patient. Barnard was trained in the USA. (*I.F.S., I.A.S., I.T.I., 1968*)

Beatles. The world famous pop singers, known by their professional name of "*Beatles*". Their names are John Lennon, George Harrison, Paul McCartney and Ringo Starr.

Beethoven, Ludwig von (1770-1827). The famous German composer and solo pianist ; he composed 9 symphonies including a choral symphony, 32 solo pianoforte sonatas, two masses and a great deal of chamber music. Considered as the greatest composer, his best works were produced during the period 1802-14.

Behring, E.A. (1854-1917). German physician and pioneer in serum therapy ; winner of the 1901-Nobel Prize in physiology and medicine ; discovered antitoxin injections for diphtheria.

Bell, Alexander Graham (1847-1922). British born American scientist and inventor of telephone. He also established Astrophysical Observatory at Smithsonian Institution and founded Aerial Experiment Association (USA). He organised Bell Telephone Company in 1877.

Besant, Annie (1847-1933). English theosophist who advocated free thought and socialism in India ; became a great fighter for Indian freedom and was arrested in 1917. In 1918 she became the President of the Indian National Congress ; became founder President of Theosophical Society in 1907. (*U. P. Civ. Ser. 1965*)

Beveridge, Lord William Henry (1879-1963). The British economist, who was responsible for establishing labour employment exchanges. In 1942, he proposed social security system for all British citizens and in 1914 he advocated extensive spending to ensure full employment.

Bhutto, Z. A. A former Foreign Minister of Pakistan and the author of Pakistan's switch towards Communist China and the hate-India campaign. He was a Minister in the post-coup Ayub Cabinet (1958); later became the Foreign Minister. He gained notoriety for his swashbuckling anti-India performances in the UN Security Council after the Indo-Pak War of 1965. Soon after the Tashkent Agreement, he was replaced. He is a prominent opposition leader at present.

Bismarck, Prince Otto Iurst von (1815-98). German statesman and creator of the German Empire; called the "Man of Blood and Iron", he allowed neither sentiment nor scruple in the way of his aims; unified Germany with force and wars and consolidated it with peace; remained Chancellor of Germany from 1871 to 1890. His *Reminiscences* appeared in 1920. (S.C.R. 4., 1961; I.N., 1966)

Blaiberg, Dr. Philip. The 59-year old white dentist from Cape Town who underwent the third heart transplant operation. Longest-survived patient of this kind, he died in August, 1969. The heart was donated by a coloured African.

Brutus, Marcus Junius (85-42 B.C.) Governor of Cisalpine Gaul, he later became one of the conspirators who plotted murder of Julius Caesar and carried it out successfully. He was, however, defeated at Philippi in 42 B.C., followed by his suicide.

Bunche, Dr. Ralph (b. 1904). American Negro and internationalist; awarded the Nobel Peace Prize in 1950; at present working as Under Secretary for Special Political Affairs at the U.N.O.; he is best known for his peace-keeping mission between the Arab States and Israel in 1949

Burke, Edmund (1729-97). English statesman and writer; entered Parliament in 1765 and was chiefly known for his great speeches; he exposed the British injustices in India and was primarily responsible for the trial of Warren Hastings; a writer of rich, stately prose; wrote *Thoughts on the Present Discontents*.

Cabot, John (1461-99). Italian explorer, who settled in England in 1486; during his two voyages he landed at Greenland and North America, then unknown to the world.

Caesar, Julius (102-44 B.C.) Roman statesman, soldier and writer and one of the world's greatest conquerors; twice invaded Britain; he was murdered in 44 B.C. by the assassins, led by Brutus and Cassius. He revised the Roman calendar.

Calvin, John (1509-64). French Protestant theologian of the Reformation era; he gave the Protestants the creed of Calvinism which aims at rejecting papal authority, accepting justification by faith alone and accepting Bible as the chief source of God's law.

Carmichael, Stokely (b. 1942). A young militant Negro leader, author of the present Negro trouble in the USA. He is not satisfied with civil rights or integration but wants to end the white supremacy in the USA.

Cartwright, Edmund (1743-1823). British inventor of power loom ; also developed a machine for combing wool.

• **Castro, Fidel (b. 1926).** Cuban Revolutionary; Prime Minister of Cuba since 1959 when he ousted President Fulgenico Batista. By 1961, he had aligned his country with the Communist bloc against the U.S.A. He successfully weathered the ominous October, 1962 crisis over the installation of Russian missile sites in Cuba and the consequent blockade of the Island by the U.S.A.

Caxton, William (1421-91). The British printer who established the first press in England at Westminster in 1476.

(U.P.C.S., 1965)

Chamberlain, Neville (1869-1940). English statesman and Prime Minister (1937-40) ; signed the Munich Pact with Hitler in 1938 and became the symbol of appeasement of Axis powers ; was the Prime Minister when World War II started but after the fall of Normandy, he resigned and was succeeded by Mr. Winston Churchill.

Chandrasekhara, S. A world-renowned research scholar in astrophysics; recipient of Padma Vibhushan (1968), America's highest science award (1967) and Ramanujam Gold Medal (1962) of the National Institute of Science of India. He is an India-born American citizen.

Chaplin, Charles Spencer (b. 1889). The famous Anglo-American actor now settled in Switzerland; the reigning king of comedy, his notable successes include *The Kid*, *Gold Rush* and *Limelight* ; in 1952 he was not allowed to return to America as he was suspected to be a communist ; was awarded the Lenin Peace Prize in 1954.

Chiang Ching. A former Chinese actress, she is the wife of Mao Tse-tung and leader of the Red Guards movement in China. Her popularity is reported to be on the wane. (Stenos, 1968)

Chiang Kai-shek (b. 1886). Chinese soldier, statesman and at present head of the Formosan Government ; originally worked with the Communists but parted company with them in 1927 ; led resistance to the Japanese (1937-45) and was country's undisputed leader from 1928 to 1948 ; in the Chinese civil war he was defeated and driven to Formosa where he continues to rule.

Chichester, Sir Francis. A British adventurer and sailor who in his 53-foot yacht named *Gipsy Moth IV* sailed round the world (a distance of 28,500 miles). Having started his voyage on 27 August, 1966, he completed it on 28 May, 1967 to receive a hero's welcome from his countrymen and the highest honours from his Sovereign. He was knighted on 8 July, 1967.

Chou En-lai (b. 1898). Chinese communist statesman and Prime Minister ; studied in France ; became the first Premier and Foreign Minister of Communist China in 1949 ; continues to be Premier ever since ; was an important negotiator at the 1954-Geneva Conference on Vietnam ; took active part in the Bandung Conference (1955) ; architect of hate-India campaign in China and elsewhere ; in the Chinese hierarchy, he leads the centralist group.

Chu Teh (b. 1886). Chinese Communist leader; during World War II commanded the Chinese Armed Forces and led the com-

munist forces during the Civil War ; after establishment of Communist Chinese Republic, he was also appointed Vice Chairman of the Chinese Republic , he is under a cloud these days due to his differences with Lin Piao, the Defence Minister, and Mao Tse-tung.

Churchill, Winston (1874-1965) British statesman, Prime Minister, soldier, author and, above all, the saviour of England, he took over from Chamberlain in 1940, fought the grim war with Hitler with exemplary determination promising nothing except pain and suffering but ultimate victory to the people. Churchill remained an M.P. for 65 years (1900-65), after the war his party was defeated at the polls but Conservative victory in 1951 brought him back as Prime Minister, retired from active politics in 1955, on death in 1965, he was accorded an almost royal burial. His chief works include *War Memoirs* and *The History of the English People*.

Cleopatra (69-30 B.C.) The Queen of Egypt and the most romantic figure of history. A woman of no exceptional charm, yet she was the dream woman of millions, she became Caesar's mistress and, after his death, she was romantically attached to Antony, this led to a war between Antony and Octavian in which the former was defeated and he committed suicide. Cleopatra killed herself soon after.

Clive, Lord Robert (1725-74) British soldier and statesman. A clerk in the East India Company, he rose to the highest position, won many famous victories including that at Plassey, he liquidated French power in India, on return to England, he was tried but was acquitted, he committed suicide in 1774.

Columbus, Christopher (1451-1506) Discoverer of America, having royal support from Spain. Columbus sailed in three ships with 88 men and landed at San Salvador Island on Oct. 12, 1492. During later expeditions he discovered Puerto Rico, Jamaica and North and South America, he died in neglect. (*Poore's* 1965)

Confucius (551-479 B.C.) Chinese ethical teacher. In the religious field, he taught national animism and ancestor worship.

Constantine II, King The 26-year old King of Greece who, with the help of the Army, staged a successful *coup* in April 1967. He dismissed the constitutional government and himself assumed all powers. Later, he was ousted by the Army.

Cook, James (1728-1779) English seaman and explorer. He made many voyages round the world and discovered new lands, chief among them being the Hawaiian Islands in the Pacific, where he was killed by the natives in 1779.

Copernicus, Nicholas (Nicolaus) (1473-1543) Famous Polish astronomer, founder of Copernican system (or the solar system); he said the sun is the centre and the earth and other planets are revolving about it.

Corbusier, Le. The famous French architect who designed Chandigarh.

Cripps, Sir Stafford (1889-1952). British statesman, and Labour leader; came to India in 1942 with British proposals of

self government ; came again in 1946 as a member of the Cabinet Mission ; British Minister of Economic Affairs and Chancellor of Exchequer (1947-50).

Cromwell, Oliver (1599-1658). A leader on the Parliamentary side in the English Civil War ; defeated Royalists at Naseby and Preston ; dismissed Long Parliament in 1653 and became Lord Protector ; ruled England from 1653 to 1658.

Curie, Pierre (1859-1906), Marie (1867-1934). French scientists and chemists ; discovered polonium and radium ; won Nobel Prize for Physics in 1903 ; Marie Curie won the 1911 Nobel Prize for Chemistry for isolation of metallic radium. (N.D.A., 1966)

Daimler, Gottlieb (1834-1900). German engineer and inventor of Otto Gas Engine and virtually the inventor of the modern car.

Dalai Lama. Installed as the divine ruler of Tibet in 1940 , considered incarnation of Buddha ; fled to India in 1959 after the Tibetan revolt against the Chinese.

Dalton, John (1766-1844). English scientist ; formulated Dalton's Law and the Atomic Theory of Matter.

Darwin, Charles Robert (1809-82). English naturalist ; his researches are contained in *The Origin of Species* and *The Descent of Man*, most prominent being the Theory of Natural Selection (or Theory of Evolution). (I.T.I., 1966 ; N.D.A., 1966)

Davy, Sir Humphry (1778-1829). British inventor of miners' safety lamp, also a great chemist and physicist and President of the Royal Society.

Dayan, Moshe. Israeli General, hero of three Israeli wars against the Arabs and at present his country's Defence Minister. Having resigned in 1964 due to differences with Prime Minister Levy Eshkol, he was brought back to the Cabinet on the eve of the West Asian crisis of June, 1967 and appointed Defence Minister. He is considered as the architect of Israeli successes against the Arabs. (Stenos., I.F.S., 1968)

De Gaulle, General Charles (b. 1890). The French General, statesman and former President ; opposed Marshal Petain's armistice with the Germans in 1940 and fled to England ; organised "Free French" forces ; formed liberation committee at Algiers (1943) ; elected President of France in 1945 but resigned the following year ; called back to be Prime Minister (1958), drew the new constitution and was elected President ; a strong opponent of American influence in European affairs. He resigned on 28 April, 1969 when his proposals for constitutional reforms were rejected by the people in a referendum.

De Valera, Eamon (b. 1882). Irish statesman and freedom fighter ; became Prime Minister of Ireland (1938), (1951-54) and (1957) ; resigned in 1959 and was elected President of Ireland ; he has been a great friend of India.

Diaz, Bartholomew (b. 1500). Portuguese navigator who rounded the Cape of Good Hope and discovered the sea route to India.

Diesel, Rudolf (1858-1913). German engineer and inventor of internal combustion engine.

Disney, Walt (er) (1901-1966). World-famed American producer of cartoon films ; *Mickey Mouse* is an important creation ; later films included adventure stories and animal life.

Disraeli, Benjamin (1804-81). British statesman, author and Prime Minister, known for his aggressive foreign policy and loyalty to imperialism ; great Tory, he was also a writer of novels, his works being *Coningsby* and *Sybil*.

Drake, Sir Francis (1545-1596). English seaman and the first Englishman to circumnavigate the globe (1577-80); participated in defeating the Armada (1588).

Dubcek, Alexander (b. 1921). Former First Secretary of the Czechoslovak Communist Party who was instrumental in ousting President Novotny from power in 1968; Member Czechoslovak Presidium (1962-69). His reformist policies provoked Warsaw Powers' intervention in August, 1968 followed by his resignation in 1969 from the party post and his ouster from the Presidium as well as the Party.

Dulles, John Foster (1888-1959). The US Secretary of State (1953-59) ; father of the US global security system. He thought "instant retaliation" as greatest deterrent to war.

Edison, Thomas Alva (1847-1931). American electrician and inventor of transmitter, phonograph, incandescent lamp ; developed first central electric-light power plant and demonstrated synchronisation of moving pictures and sound. He made about 1,000 inventions and held 1,300 patents. (*Cks. Gde., 1968*)

Eichman, Adolf. Nazi leader who was responsible for the general massacre of Jews in Germany. He was captured in Argentina in 1960 and was whisked away to Israel where he was tried. He was hanged in 1962.

Eiffel, A.G. (1832-1923). French engineer and an authority on aerodynamics ; designed the famous Eiffel Tower (984 ft. high) of Paris.

Einstein, Albert (1879-1955). The world famous German-born American theoretical physicist ; won Nobel Prize in 1921 for Physics; propounder of the famous Theory of Relativity.

Eisenhower, General Dwight (1890-1969). American soldier and statesman ; U.S. President (1953-61) ; a hero of World War II (European theatre) and Supreme Commander NATO forces ; advocated the American global security system and formulated the Eisenhower Doctrine for Middle East (1957) ; he was nicknamed 'Ike'. (*N.D.A., 1966*)

Elizabeth II (b. 1926). Queen of England since 1952; married to Prince Philip (Duke of Edinburgh). Queen Elizabeth visited India in 1961.

Emerson, R.W. (1803-82). Famous American essayist, poet and philosopher.

Erhard, Ludwig (b. 1897). German economist, statesman and a former Chancellor of West Germany ; his economic policies during his term as Economics Minister were responsible for quick recovery of German economy.

Eshkol, Levy. Prime Minister of Israel (1965-69). He headed a coalition government ; he died on 26 February, 1969.

Fahien. The Chinese Buddhist monk-turned-historian who visited India during the reign of Chandragupta II ; during his stay (399-411 A.D.), he studied Indian conditions and wrote a detailed account which is the most trustworthy source of information about the reign of Chandragupta II.

(*I.A.S.*, 1963, 66 ; *Stenographers*, 1965 ; *I.N.*, 1966)

Faraday, Michael (1791-1867). British chemist and physicist ; his researches in electrolysis laid the foundation of electro-chemistry ; developed the first dynamo and principle of electromagnetic induction.

Ferrer, Rev. A former Spanish Jesuit, who worked in Manmad (Maharashtra) for the "social and economic uplift" of rural masses". He was ordered out of the country for objectionable activities, but was later allowed to return to India to work in Andhra Pradesh.

Fleming, Sir Alexander (1881-1955). Scottish bacteriologist, who shared the 1945-Nobel Prize in Physiology and Medicine for his discovery of penicillin. (*N.D.A.* 1966)

Ford, Henry (1863-1947). American industrialist and pioneer in automobile manufacture ; he established the Ford Foundation.

Franco, General Francisco (b. 1892). Spanish soldier, statesman and dictator ; became chief of insurgent Government in 1936 and dissolved all political parties ; remained neutral during World War II ; he has been ruling Spain since 1939.

Freud Sigmund (1856-1939). Austrian psychiatrist and founder of psychoanalysis. According to him, hysteria represents the undischarged emotional energy; after 1923, he used psychoanalytic theory in cultural studies and greatly influenced education, art and literature.

Gagarin, Yuri (1934-68). The first Russian cosmonaut who hit the world headlines on 12 April, 1961 by reaching outer space in Vostok I ; after orbiting the earth, he came down safely ; was accorded the highest honour of his country. He died in an air crash in March, 1968. Some call him Columbus of Space Age.

Galileo (1564-1642). The Italian astronomer who first erected a telescope and discovered the satellite of Jupiter and also some spots on the sun. Later he confirmed the planetary movements as observed by Copernicus. His scientific discoveries were declared anti-Christian and Galileo was put into prison. On release, he continued his researches till his death. He is now placed among the greatest scientists of the world.

Gama, Vasco da (1460-1524). The Portuguese navigator who discovered the route to India round the Cape of Good Hope in 1497 ; after crossing the Indian Ocean, he reached Calicut and established a settlement there. He died at Cochin.

Garibaldi, Giuseppe (1807-1882). The Italian patriot who, with Mazzini, organised the Young Italy movement and joined the rebellion of 1834. He is considered one of the greatest Italian heroes as he successfully ousted the foreigners from Italy.

Giap, Gen. Vo Nguyen. Defence Minister and the foremost military genius of North Vietnam, who masterminded the communist strike against the French at Dien Bien Phu in 1954 and the

"Tet" offensive of the Vietcong in Feb-Mar. 1968. Giap is now coordinating Guerrilla and regular warfare against South Vietnam and the American forces. His tactical theories are found in his book *"Big Victory, Great Task."*

• **Gladstone, William Ewart (1809-98).** British Liberal statesman and Prime Minister four times. A master of finance, he promoted free trade and fairer tax distribution. He also introduced other reforms.

Glenn, John. The first American astronaut who orbited the earth in February, 1962. He received the Distinguished Service Medal of National Aeronautics and Space Administration of the U.S.A.

Goering, Hermann Wilhelm (1893-1946). German Nazi leader; he founded the Gestapo (Secret Police) in 1933; in 1939 he was designated successor to Hitler: during the World War II, he directed the air war. He was tried at Nuremberg and was sentenced to death but he took poison and died before hanging.

Gomulka, Wladyslaw (b. 1905). First Secretary Polish Communist Party since 1956. He was Secretary General of the Party (1943-48) when he was dismissed for anti-Stalinist conduct, but was rehabilitated 8 years later after the Poznan riots of 1956.

Goodyea, Charles (1800-1860). American inventor and originator of rubber vulcanisation.

Gorton, J.G. (b. 1911). Prime Minister of Australia since January, 1968. Educated in Australia, and at Oxford, he served with the Australian Air Force during World War II. He came to office after the death of Prime Minister Harold Holt.

Gromyko, Andrei A. (b. 1909). Russian statesman and diplomat; was Soviet Ambassador in U.S. (1943-46), Russian delegate to the UNO (1946-48), Ambassador to England (1952-53). He has been Foreign Minister since 1957 and also a Deputy Prime Minister.

Hahn, Otto (1879-1968). German chemist and physicist; split the uranium atom in 1939 and discovered possibilities of chain reaction; he was 1944-winner of Nobel Prize in Chemistry.

Hahnemann, Dr. Samuel (1755-1843). German physician, founder of Homoeopathy.

Haile Selassie (b. 1891). Originally named Tafari Makonnen, he is Emperor of Ethiopia; crowned King in 1930; during Italian invasion (1935-36) personally led his troops against the invaders. Having fled to England in 1936, he returned in 1941 to regain his throne. He has introduced numerous reforms. He visited India in 1956 and in April, 1968.

Haldane, Prof. J.B.S. (1892-1964). English scientist, mathematician and statistician who had settled in India. He is known for application of mathematics to biology and for expositions of science for the layman. He worked in the Indian Statistical Institute, Calcutta.

Hammaraskjold, Dag (1905-61). The controversial Secretary General of the UNO (1953-61) who braved many a political storm and was in the end a victim of it. A member of the Swedish Foreign Ministry, he was appointed as Secretary General in 1953. While

on a peace mission to Congo, he died in a plane crash and was posthumously awarded the Nobel Peace Prize for 1961.

(I.F.S. 1968)

Harris, Paul P. The American Attorney who, in 1905, founded the Service Club movement which later crystallized in the formation of Rotary Club or Rotary International. (I.N. July, 1970)

Hee, Park Chung. President of South Korea. He was elected for the second term in 1967.

Hegel, George Wilhelm Friedrich (1770-1831). German philosopher who formulated the idealistic philosophy, a complicated phenomenon of Thesis, Antithesis and Synthesis. History shows the progress from lower to higher manifestation of life. Cultures conflict and the higher or superior is triumphant. Later, Karl Marx developed this concept into Marxian dialectical materialism. His important works are *Phenomenology of Mind*, *Science of Logic* and *Philosophy of Right*.

Hitler, Adolf (1889-1945). The evil genius of Nazi Germany. From a petty Corporal in the Bavarian Army during World War I, he rose to be the dictator, founder and leader of National Socialism in Germany. Appointed Chancellor in 1933, he later became dictator ; under him, Germany's foreign policy became excessively aggressive ; Hitler started the War in 1939, dead sure to win it. In spite of initial spectacular successes, his armies were driven back. Seeing that Allied armies had been taking Berlin inch by inch, Hitler took poison and died on the eve of his country's surrender. He wrote *Mein Kampf* (My Battle).

Hiuen Tsang. He came to India as a Chinese pilgrim in about 630 A.D. during the reign of Harsha Vardhana and stayed here for 14 years. Having acquired the friendship of the King, he observed the political and social scene from close quarters and later gave a detailed account of what he saw and observed.

Hobbes, Thomas (1588-1679). English political philosopher. He propounded rationalist materialism, as set forth in *Leviathan*. Men, according to him, in their natural state are brutish and anarchic and they agree to set up an artificial body (which may be a sovereign or some other authority) to promote common good and peace.

Ho Chi-minh. (1890-1969). Vietnamese revolutionary leader and the President of North Vietnam (1954-69). Having established his provisional government in 1945, he started hostilities with the French in 1946. By the agreement of 1954, a communist regime under him was established in North Vietnam ; a legendary figure, he died on 3 Sept. 1969.

Ho Lung, Marshal. A Vice Premier, a member of the Chinese Politburo and a Vice Chairman of the Military Committee, Ho was dismissed in January, 1967 for his anti-Mao activities and his opposition to the Red Guards movement.

Holt, Harold. The former Prime Minister of Australia and a supporter of American action in South Vietnam. He was drowned in December, 1967.

Huang Yng Shengh, Marshal. New Army Chief of China after the ouster of former Chief Gen. Lo Jiicheng on 1 Aug., 1966. He is a loyal supporter of Mao Tse-tung.

Hume, A.O. A retired English officer of the Indian Civil Service who formed the Indian National Congress in 1885.

Hunt, Sir John. Leader of the British expedition team which conquered Mount Everest in 1953. He has now been made a Baron by Queen Elizabeth II of England.

Huong, Tran Von. Former Prime Minister of South Vietnam (1968-69).

Huxley, Prof. Julian (1887-1964). Biologist and author; was Director General of UNESCO (1946-48). His works include *The Living Thought of Darwin* and *Heredity East and West*.

Ibn Batuta (1304-1377). A Morocco-born Moorish traveller who came in 1333 A. D. to India via Central Asia during the reign of Mohammad Tughlaq. The King appointed him the Kotwal of Delhi. In 1342, he undertook an unsuccessful expedition to China and later returned to his native country.

Jarring, Gunar (b. 1908). The Swedish diplomat, who has been acting as the UN special representative to promote political settlement in West Asia. He has also served as UN Mediator on Kashmir.

Jenghiz Khan (Chenghiz Khan) (1162-1227). The Mongol emperor, proclaimed King of Mongolia in 1206. Later, he annexed China and Turkistan and invaded Russia, Persia and India.

Jenner, Edward (1749-1823). English physician and discoverer of vaccination.

Joan of Arc (1412-1431). The French heroine, daughter of a peasant, who led the French troops to victory at Orleans, besieged by the English troops. This was followed by more successes. She was captured by the Burgundians who sold her to the English. Tried and declared a sorcerer, she was eventually burnt in 1431.

Kant, Immanuel (1724-1804). The German philosopher whose writings greatly influenced later thinkers. *The Critique of Pure Reason*, *The Critique of Practical Reason* and *The Critique of Judgement* are the three important books that contain his philosophy.

Kasavubu, Joseph (1917-69). African political leader and the first President of Congo (1960-65). In Nov., 1965, he was deposed by General Joseph Mobutu, the Army Chief and now the President of Congo. He died on 24 March, 1969.

Keller, Helen. The world famous American blind and deaf leader of the physically handicapped, who died on 1 June, 1968 at the age of 88. A recipient of the US Medal of Honour, she is the author of "*The Story of my Life*" which was published in 1902.

Kennedy, John F. (1917-63). America's youngest President (1961-63), an intellectual and a statesman; was a Senator (1958-60); won a Pulitzer Prize in 1957 for his book *Profiles in Courage*. His "New Frontier" policy meant breaking of the old barriers everywhere; Peace Corps and Alliance for Peace were some of his important programmes. His brilliant career was however, cut

short by the assassin who shot him down in Dallas on 22 November, 1963.

Kenyatta, Jomo (b. 1893). President of Kenya and a great revolutionary leader. Before Kenyan independence, he worked for land reform and political rights and founded the Pan African Federation in 1946.

Kepler, Johannes (1571-1630). German astronomer who formulated three laws of planetary motion that later helped Newton in his researches. These laws are the basis of modern astronomy.

Khrushchev, N. S. (b. 1894). Russian Communist leader, statesman and former Prime Minister (1958-64); in 1939, he became a member of the Politburo and in 1953 First Secretary of the party's Central Committee; in 1956 he denounced Stalin at the Party Congress and in 1958 he became the Prime Minister; came to India along with Bulganin in 1955; a great tactician and shrewd diplomat, he saved the world from a near disaster by agreeing to dismantle defence works in Cuba in 1962. He was the spirit behind signing the Nuclear Test Ban Treaty of 1963 at Moscow; he was succeeded in 1964 by Alexie Kosygin.

Kiesinger, Kurt George. Former Chancellor of West Germany who replaced Ludwig Erhard on 2 December, 1966. He visited India in November, 1967.

King, Dr. Martin Luther (1929-68). American Negro leader and dedicated worker for the Civil Rights. He led the famous Selma March of American Negro civil rights workers to Montgomery (Capital of the Alabama State); was awarded the Nobel Peace Prize in 1964. He was shot down by a white assassin on 4 April, 1968 at Memphis Tennessee (U. S. A.)

Kitchener, Horatio Herbert (1850-1916). British soldier and statesman; C-in-C of Army in India (1902-09); conquered Sudan (1896-98) and became its Governor General; he was secretary for War during World War I; in 1916 he was drowned in a ship while on way to meet the Tsar of Russia.

Kosygin, A. (b. 1897). Prime Minister of USSR since 1964. He was responsible for bringing India and Pakistan to the negotiating table (after the 1965 war) resulting in the Tashkent agreement. In June, 1967, he attended the UN General Assembly session on West Asian crisis and later had a summit meeting with President Johnson at Glassboro (USA).

Krupp, Alfred (1812-87). Belonging to the family of German armament manufacturers, he was nicknamed "cannon king" for his specialisation in armament manufacture; the Krupp Works were the chief manufacturers and suppliers of arms and equipment to the German forces during the two wars.

Lagergren, Dr. Gunnar. A Swedish national who was Chairman of the Kutch Tribunal to arbitrate between India and Pakistan on the ownership of the disputed Rann of Kutch. He was nominated by U Thant, the UN Secretary General. (I.T.O., 1966)

Lao Tze (Tzu) (6th Century B. C.). The famous Chinese founder of Taoism, a kind of pantheism; according to its teachings, all things originate from Tao (supreme being), conform to Tao and

to Tao they at last return. He also believed in the transmigration of souls; wrote *Tao-Teh-King*. (I.A.S. 1960)

Laski, Harold J. (1893-1950). English political scientist, economist and writer; an important member of the Fabian Society; a distinguished teacher and a labour leader; wrote *Grammar of Politics, Reflections On The Revolution Of Our Time*.

Lawrence (of Arabia) T.E. (1888-1935). British soldier, scholar and adventurer who organised Arab resistance against Turkey during World War I; wrote *The Seven Pillars of Wisdom*.

Lee Kuan Yew. A founding leader of Singapore's People's Action Party, formed in 1953. Mr. Lee has been Prime Minister of Singapore since 1959.

Lenin, V.I. (1870-1924). Russian revolutionary, an intellectual and founder of Soviet Russia; twice exiled for his activities, he organised communist movements abroad; returned to Russia immediately after the outbreak of 1917 revolution, ousted the Kerensky government and assumed dictatorial powers; founded Comintern (1919) and started New Economic Policy (N.E.P.) in 1921 to repair economic ruin; he died in 1924.

Leonardo da Vinci (1452-1519). Italian artist and scientist who painted *Mona Lisa* and *St. Anne, Mary And The Child*. (I.T.I. 1966).

Lesseps, F. M. Vicomte (1805-94). French diplomat and engineer who planned and supervised Suez Canal in 1869; he also attempted the Panama Canal.

Lincoln, Abraham (1809-65). American statesman, leader and President; elected to U.S. Senate (1858); opposed slavery and injustice to the Negroes; elected President (1860); Southern States seceded in 1861 and with that began the Civil War; due to his efforts, the North triumphed and the Union was saved; re-elected President (1864); he was assassinated in April, 1865; he is known for his views on freedom and equality.

Lin Piao, Marshal. The pro-Mao Defence Minister of Communist China. A short statured, rather stooped man and a brilliant theoretician, he proved his worth as a commander during the Chinese war against Japan and later in Korea against the UN forces. He has now been named successor to Mao Tse-tung.

Liu Shao-chi. The anti-Mao ex-President of Communist China who had been waging grim struggle against Mao and the Red Guards hooliganism. He is now reported to have been ousted as the Head of the State. Southern China and Sinkiang province were said to be his strongholds.

Livingstone, David (1813-73). Scottish missionary and explorer in Africa; he discovered Victoria Falls.

Lloyd George, David (1863-1945). British statesman, Liberal M.P. and Prime Minister (1916-22) of the coalition govt.; he was the main spirit behind English war-effort during World War I.

Lumumba, Patrice E. (1925-61). Political leader and Prime Minister of Congo (1960); soon after independence, the country was menaced by secession and civil war; he was later dismissed, arrested and handed over to the secessionist leader

Tshombe and was murdered under mysterious circumstances in 1961.

Luther, Martin (1483-1546). German leader of Protestant Reformation ; a strong opponent of dispensation of Indulgence, he stood against the orthodox Church and brought about a revolution in Christianity. (M.C. Nov., 1961)

Luthuli, Albert John (d. 1967). Chief of the Zulu tribe of South Africa, he was a great passive resistance leader who strongly opposed the racist policy of the South African Government. He died in a railway accident.

Lutyens, Sir Edwin (1869-1944). English architect who planned New Delhi, including the Rashtrapati Bhawan (former Viceregal Lodge) and designed Cenotaph in London.

MacArthur, General Douglas (1880-1964). American soldier who fought in World War I and commanded the American forces in the Far East during World War II ; occupation commander in Japan and director of UN war in Korea ; he was dismissed by President Truman in 1951 for airing views over the China policy ; he was one of the best American soldiers.

Macaulay, Lord (1800-59). British administrator, historian and author ; he was in India (1834-38) ; his major works are *The History of England* and *Lays of Ancient Rome* (Poetry). He introduced study of English in India. (I.N. Dec., 1965)

Machiavelli, Niccolo (1469-1527). Italian writer and statesman, author of *Il Principe (The Prince)* ; it is based on the theory that the ruler is justified in taking any measures, moral or immoral, to maintain his supremacy.

Magellan, Ferdinand (1470-1521). Portuguese sailor who was the first to complete a voyage round the world. His original name was **Fern De Magalhaes**.

Makarios, Archbishop. An important leader of Cyprus and the first President of the country. He has been in office since 1960.

Malan, Daniel F. (1874-1959). Prime Minister of South Africa (1948-54) and an unashamed advocate of apartheid and white supremacy.

Malik, Adam. Indonesia's Foreign Minister and the architect of conciliatory policy towards Malaysia. Due to his efforts, relations between Indonesia and many other Asian nations including India have returned to normal.

Malthus, Thomas Robert (1766-1834). English economist and population theorist ; population, he says, increases by geometrical ratio and production by arithmetical ratio, the phenomenon of poverty being thus unavoidable; nature strikes balance by means of wars, famine and disease; *An Essay on the Principle of Population* embodies this theory.

Manchester, William. American author of the *Portrait of A President* and the *Death of A President*. The latter became a subject of controversy when Mrs. Jacqueline Kennedy objected to certain portions in the book which infringed the privacy of a wife.

Mao Tse-tung (b. 1893). Leader and founder of the Chinese Communist Party and Chairman of Chinese People's Republic (1949-59) ; he directed the Chinese civil war ; projects like Com-

munes and the "Great Leap Forward" owe their authorship to him; he unleashed in China the Cultural Revolution which, in fact, was a movement against Liu Shao-chi. He is famous for his treatise on guerilla warfare.

Marconi, G. (1874-1937). Italian inventor of wireless telegraphy; won Nobel Prize for Physics in 1909. (N.D.A., 1966)

Marx, Karl (1818-83). German economist and radical leader; expelled from Germany, he settled in London; with Engels issued the Communist Manifesto in 1848; modern concepts of socialism and communism are derived from his dynamic theory of social change; wrote *Das Kapital (The Capital)* which has exerted considerable influence on modern thought.

Mazzini, Giuseppe (1805-72). Italian patriot and revolutionary who spent most of his life in exile. A protagonist of a unified Italy, he was the hero of Milan of 1848.

McCarthy, J.R. (1908-57). U.S. Senator belonging to the Republican Party (1947-57); he was known for his fanatically suspicious attitude and a vigorous campaign against the communists and the fellow travellers.

McNamara, Robert. U.S. Secretary of Defence in Johnson Administration; at present President of World Bank.

Megasthenes. The Greek Ambassador in the court of Chandragupta Maurya, sent by Seleucus. He remained in India between 302 and 298 B.C. and recorded his observations about the country in his book *Indica*. This book is the chief source of information for the period. (S.C.R.A., 1963)

Mendes-France, Pierre (b. 1907). French statesman and a radical socialist, Prime Minister (1954-55); opposed de Gaulle's return to power but was defeated at the polls; French possessions in India were transferred to India during his regime.

Menuhin, Yehudi (b. 1916). A great American violinist. He has been given the Nehru Award for International Understanding (1968). He came to India to receive the Award.

Menzies, Robert G. (b. 1894). Australian statesman and Liberal Party leader; Prime Minister (1939-41, 1949-65).

Michelangelo (1475-1564). Italian painter, sculptor, architect and poet; considered as the greatest artist of the Renaissance period; his notable pieces of art are the statue of David, "*The Giant*" and the sculptured figures "*Moses*" and "*The Slaves*". His verses are the finest pieces of Italian poetry.

Mikoyan, Anastas (b. 1895). Russian communist leader and expert in economic affairs; former First Deputy Prime Minister of USSR; elected President of USSR in July, 1964 but resigned in December, 1965.

Mill, J.S. (1806-73). English philosopher and political theorist; he developed the theory of utilitarianism.

Mirza, Iskander (d. 1969). A member of the Indian Political Service, he rose to be the first President of Pakistan in 1956. He was ousted by General Ayub Khan in 1958 and exiled. He died in obscurity in Nov., 1969.

Mobutu, General Joseph. President of Congo since 25 November, 1965 when he staged a *coup* and overthrew President Kasavubu.

Molotov, V.M. (b. 1890). Former Russian statesman and leader; Foreign Minister 1939-49 and 1953-57; an outstanding Russian spokesman on world affairs during the World War II; he was dismissed from the Presidium in 1957, after Khrushchev came into power.

Montgomery, Field Marshal (b. 1887). The hero of British victory at Alamein (1942) and the leader of the Allied invasion of Normandy; commanded British forces in Germany (1945-46); Chief of Imperial General Staff (1946-49); Deputy Supreme Commander NATO (1951-58); his Memoirs are extremely readable

Monroe, James (1758-1831). Fifth President of the U.S., chiefly famous for the Monroe Doctrine aimed at preventing the European powers from interfering in the internal affairs of Latin American countries.

Morse, S.F.B. (1791-1872). American artist and inventor of Morse Code; he experimented with submarine cable telegraphy.

Motley, Mrs. Constance. The first Negro woman who has been appointed a Judge of the US Federal Court.

Mounbatten, Lord Louis (b. 1900). Former British Admiral, Chief of Staff and statesman; during World War II he served in Norway and France and later commanded the Allied operations against the Japanese in Burma in 1943; appointed Viceroy of India (1947) and after independence its Governor General; became UK's Admiral of the Fleet in 1956 and Chief of Defence in 1959. Mounbattens have been great friends of India.

Mozart, W.A. (1756-91). Austrian musician and composer; he combines the richness and melody of the Italian school and harmony and instrumentation of the German school; some of his successful compositions are *Marriage Of Figaro*, *Casi Fan Tutti* and *The Magic Flute*.

Mussolini, Benito (1883-1945). Italian Dictator, statesman and leader of Fascism; in October 1922 he marched to Rome and captured power, ended the parliamentary govt. and brought in Fascist Corporative State; captured Ethiopia (1935-36) and Albania (1929); leaped into World War II on the side of Hitler (1940); was captured and shot by the Italian partisans when German power collapsed in 1945. (M.C., Nov., 1961)

Napoleon Bonaparte (1769-1821). Emperor of the French and one of world's best generals; after coup d'état in 1799, Napoleon became First Consul; proclaimed emperor of the French in 1804 and of Italy in 1805; by defeating Austria, Prussia and Russia, Napoleon became master of the continent; in 1812, Napoleon attacked Russia but his army was routed during retreat in winter; abdicated in 1814 and exiled to Elba but escaped and reached France; after a hundred days' rule he was finally defeated at Waterloo in 1815 and imprisoned in St. Helena where he died after six years of captivity.

Nasser, Gamal Abdel (1918-70). Former President of U.A.R. (1954-70); a courageous Arab and a great revolutionary, he master-minded the 1952-coup against King Farouk which ended monarchy; elected President under the 1956 Constitution; overcame the Suez crisis successfully and became the virtual leader of the Arabs. He died on 28 Sep. 1970, hours after he brought about rapprochement between King Hussein and the Guerrillas. (N.D.A., 1967).

Ne Win, Gen. (b. 1910). The Burmese Army General who toppled in 1962 the civilian government and became Chairman of the Revolutionary Council.

Nelson, Horatio (1758-1805). English naval hero; destroyed Napoleon's fleet at Aboukir (1798) and shattered his plans of expedition to India; humbled the Danes in 1801 and defeated and destroyed the combined French and Spanish fleets off Cape Trafalgar in 1805 but he was killed in action.

Newton, Sir Isaac (1642-1727). English mathematician, physicist and philosopher; famous for his experiments on light which had basis of spectroscopy and formulation of corpuscular theory of light; derived the laws of gravitation and motion. These laws are embodied in his work: *Mathematical Principles of Natural Philosophy*.

Nguyen Van Thieu (b. 1923). The first civilian President of South Vietnam after the assassination of Ngo Dinh Diem on 1st November, 1963. He was elected President in the general election held on 8 September, 1967. He is a Buddhist convert to Catholicism.

Nietzsche, Friedrich Wilhelm (1844-1900). German philosopher with morbid sensitivity; in his best known work *Thus Spake Zarathustra*, he preaches the superiority of aristocratic classes and the absolute necessity and justification of a superman. Other works: *The Birth of Tragedy*, *Beyond Good And Evil*.

Nightingale, Florence (1820-1910). English reformer and social worker; in Crimean war (1854) she organised nursing and medical aid for the wounded; in 1860 founded School and Home for training nurses; was popularly known as "Lady of the Lamp".

Nixon, Richard M. The Republican President of the USA, elected in Nov. 1968. His ceremonial inauguration took place on 20 Jan. 1969. He was Vice President during the Presidency of Gen. Dwight Eisenhower (1953-61).

Nkrumah, Dr. Kwame (b. 1909). A great African leader and a "life-President" of Ghana before his regime was thrown out by the coup of February, 1966. He now lives in exile.

Nobel, Dr. Alfred Bernhard (1833-96). Swedish chemist and inventor; invented dynamite and donated funds for the institution of prizes (now called Nobel Prizes) for outstanding work in physics, chemistry, physiology and medicine, literature, economic science and for promotion of world peace.

Ohm, George Simon (1787-1854). German physicist who formulated the law of electrical resistance known as Ohm's Law, named after him. Ohm is the practical unit of electrical resistance.

Panchen Lama. Tibetan leader next in importance only to Dalai Lama. After Dalai Lama's flight from Tibet, Panchen Lama was installed the Tibetan ruler by the Chinese. Later, he was reported to have been dethroned and detained in China, followed by persistent rumours about his escape from Chinese custody.

Pasternak, Boris L. (1890-1960). Russian poet and novelist ; a controversial figure in Soviet Russia, he wrote *Spektorsky* and *The Year* (poetry) ; but his fame chiefly rests on his fictional masterpiece *Doctor Zhivago* ; he was awarded Nobel Prize in Literature in 1958 but he refused to accept it. (I.F.S., 1968)

Pasteur, Louis (1822-95). French chemist; he developed the technique of vaccination against anthrax and extended it to hydrophobia ; his experiments also led to the prophylactic treatment of diphtheria, tuberculosis, cholera, yellow fever and plague ; his experiments on wine, vinegar and beer led to Pasteurisation (the process named after him).

Pearson, Lester Bowles (b. 1897). Canadian statesman and Prime Minister (1963-68), was Secretary of State External Affairs (1948-57) and President of the UN General Assembly (1952-53); assumed leadership of the Liberal Party in 1958 and led it to victory in the 1963-elections; he won the Nobel Prize for peace in 1957.

Peary, Robert Edwin (1856-1920). American explorer of the Arctic; reached the North Pole in 1909; he had earlier led a 1300-mile sledging expedition towards the North Pole.

Peng Chen. Former Mayor of Peking and a protagonist of Liu Shao-chi. He was sacked and disgraced in June, 1966.

Pétain, Henri Philippe (1856-1951), Former Marshal of France; fought with the Germans with distinction during World War I ; in World War II, when France was overrun by Germans he concluded armistice with Germany (June, 1940) and became Chief of State with headquarters at Vichy; after the war, he was tried and sentenced to death but the sentence was later commuted to life imprisonment.

Picasso, Pablo Riuz (b. 1881). Spanish painter of fame; influenced by Cezanne and El Greco, he became known for his cubist works; his expressive mural *Guernica* (1937) represented the agonies of Spanish civil war; he drew a dove for the Congress of Partisans for Peace (1949) which has now become a communist symbol.

Pitman, Sir Isaac (1813-97). Inventor of the Pitman system of shorthand based on phonetic principles; he published *Stenographic Sound Hand* in 1837.

Planck, Max (1858-1947). German physicist who won the 1918 Nobel Prize for his *Quantum Theory* in thermodynamics.

Plato (427-347 B.C.). Greek philosopher and world's most influential thinker; born at Athens, he studied under Socrates and later founded the *Academy* at Athens; *Republic* and *Laws* are his most outstanding works; according to him, Idea, the general form, is the basis of true reality, permanent and sure behind all appearances. .

Polo, Marco (1254-1324). Italian traveller and adventurer; visited India and China where he became a favourite of Kublai Khan, the Chinese Emperor; he wrote his experiments of the East which were considered a faithful source of information about the Orient during the renaissance period.

Ptolemy (2nd Century A.D.). Greco-Egyptian astronomer, mathematician and geographer; his 13-volume book *Almagest* describes his system, known as Ptolemaic system, which represents the earth as a fixed centre with the sun and other Planets revolving round it from east to west.

Presbich, Raul. The Argentinian economist who till recently was the Secretary General of UNCTAD. He was also, for 13 years, Executive Secretary of the UN Economic Commission for Latin America.

Pythagoras (582-507 B.C.). Greek philosopher and mathematician; in the matter of religion he believed in the transmigration of souls and purificatory rites to seek release from reincarnation; in the field of mathematics, he believed that all relationships could be expressed numerically. The harmonies, he said, that keep the universe in ordered motion and from which are born the music and arts, depend on the number.

Quisling, Vidkun (1887-1945). Renegade Norwegian Army officer and Fascist leader who founded *National Samling* (National Unity) Party and assisted the Germans in their Norwegian attack (1940); after German occupation, he became Prime Minister (1940, 1942-45); was tried and shot down after the war; his name is now a common noun meaning a traitor.

Raphael, Sanzio (Santi) (1483-1520). Italian painter; his father, a court painter, gave him early training; his early work was influenced by Perugino, Leonardo and Michelangelo; his later work was confined to the State apartments in the Vatican.

Rasputin, Gregory Efimovitch (1871-1916). A notorious Russian monk at the court of Nicholas II of Russia; an illiterate peasant and a vulgarian, he had tremendous influence over the royal couple who condoned his orgies; his interference in administration and appointments made some noblemen to have him assassinated; Prince Yussupov was one of the conspirators.

Reuter, Pal Julius de (1816-1899). The German founder of the Reuter's Telegraph Co. (or Reuters), an international agency for the collection and dissemination of news; in 1916 Reuters was purchased by a syndicate.

Rockefeller, John Davison (1839-1937). American "oil king" and philanthropist; by sheer hard labour, business calibre, amalgamation of oil firms and ruthless elimination of oil competitors, Rockefeller rose from humble beginnings to be the richest man in the world; he founded Rockefeller Foundation in 1913.

Rockefeller, Nelson Aldrich (b. 1908). Son of John Davison Rockefeller; Chairman Point Four Programme (1950-51), Special Assistant to the President (1954-55), Governor of New York from 1958; fought for party nomination as Republican candidate for the Presidentship in 1964 and 1968 but lost.

Rommel, Erwin (1891-1944). German Field Marshal and one of the world's top military leaders; after successes in Europe, he commanded German troops in North Africa with initial advantage but suffered major defeat at Alamein (1941-43), was nicknamed "Desert Fox"; later in 1944 he fought in N. France; was called back and forced to take poison to end his life.

Rontgen, Wilhelm Konrad von (1845-1923). German physicist who discovered X-rays in 1895, now called the Rontgen rays. He was awarded the 1901-Nobel Prize for this discovery.

Roosevelt, Franklin D. (1882-1945). American statesman and President (1933-1945); author of the *New Deal*, comprising huge public spending to revive economy; attended various international conferences such as the Teheran, Casablanca, Quebec and Yalta conferences, he ceaselessly fought for peace in the world; he was one of the founder members of the U.N.O.

Ross, Ronald (1857-1932). Born in India at Almora; a great British physician and bacteriologist and an authority on tropical medicine; was awarded the 1902-Nobel Prize in Medicine for work on transmission of malaria.

Rousseau, Jean Jacques (1712-78). French writer and philosopher; was considered as a spiritual guide to the French revolutionaries; wrote on diverse topics and influenced all spheres of French thought; *Confessions* and *Social Contract* are his two famous books.

Russell, Lord Bertrand (1872-1970). A philosopher, mathematician and a writer; he has given philosophy a mathematical basis; some call him a destructive genius especially for his critical works in the social and political fields; won Nobel Prize for Literature in 1950; his important works are *Principia Mathematica*, *Principles of Social Reconstruction*, *A.B.C. of Relativity*, *Marriage and Morals* and *Conquest of Happiness*. He died on 3rd Feb., 1970.

Rutherford, Lord Ernest (1871-1937). British physicist, famous for research in radioactivity; formulated the nuclear structure of the atom; won Nobel Prize for Chemistry in 1908.

Salazar, Antonio de Olivera (1889-1970). Portuguese statesman, a dictator and an unashamed colonialist; appointed Finance Minister (1926); Prime Minister and Dictator (1932-68); prepared the country's new constitution in 1933. After a long illness, he died on 27 July, 1970.

Sartre, Jean-Paul. The high priest of existentialism, a virtual godless, anarchic philosophy stressing the actual existence rather than the idea behind it. He was the spiritual leader of the student agitators in France in May, 1968. His writings include *Being and Nothingness*; *Age of Reason*, *The Respectful Prostitute* and *Chips are Down*. He was awarded Nobel Prize for literature in 1964 but he declined it.

Sato, Eisaku. Prime Minister of Japan since November, 1964 when he took over from Hayato Ikeda. Sato's party was returned to power in the elections held in January, 1967.

Schuman, Robert (b.1886). French statesman; Foreign Minister (1948-53); Prime Minister (1947-48); initiated the European Coal

and Steel Community in 1950 and was President of the European Parliamentary Assembly (1958-60).

Senanayake, Dudley. The former Prime Minister of Ceylon (1965-70). He became Prime Minister for the third time in 1965, his earlier terms being 1952 and 1960. His party was defeated in May 1970 elections.

Seretse Khama. President of newly-freed Botswana.

Shelepin, Alexander. A member of the Russian politburo and Chairman of the Central Council of Trade Unions, he was awarded the Order of Lenin in August, 1968.

Smith, Adam (1723-90). British economist and writer of *The Wealth of Nations*, a brilliant treatise on the concept of free trade and circulation of gold; he recommended minimum or no tariffs and an unrestricted flow of goods among the countries; he is rightly called the father of modern economics.

Smith, Ian. Prime Minister of Southern Rhodesia who declared unilateral independence in November, 1965.

Slocum, S.H. (1886-1961). The famous American engineer who was the chief consultant for the construction of Bhakra Dam.

Smuts, Jan Christiaan (1870-1950). The South African soldier and statesman; Prime Minister of South Africa (1919-24) and again during World War II; a strong advocate of League of Nations and the United Nations; he was defeated by Dr. Malan's Nationalist Party in 1948.

Socrates (469-399 B.C.). Greek philosopher, regarded as one of the wisest of all times; he taught that truth and virtue are inextricably connected and ignorance is the mother of all vice; he considered self-knowledge better than the speculation about universe; condemned for corrupting the youth of the time, he was forced to poison himself to death; his teachings were "Truth, Virtue and Enquiry".

Soekarno (Sukarno) (1901-70). Indonesian freedom fighter, statesman and first President; he was responsible for the confrontation policy against Malaysia; leaned heavily towards Communist China and withdrew his country's membership of the U.N.; after the abortive coup of Oct., 1965, he was divested of all dictatorial powers and was later replaced by General Suharto. He died in detention on 21 June, 1970.

Stalin, Joseph V. (1879-1953). Russian revolutionary, dictator and Prime Minister; born in Tiflis, Georgia, he joined the Social Democrats at the age of 17; he was editor of Pravda (1912-13) and directed the Bolshevik movement in and outside the Duma; in 1917, he became the General Secretary of the Party, and was in the forefront during the revolution; on the death of Lenin in 1924, he succeeded him as dictator; during World War II, he assumed Prime Ministership as well as military leadership; died in 1953; in 1956 he was severely criticised and denounced by Khrushchev.

Stephenson, George (1781-1848). English Engineer and inventor of the first locomotive engine; this invention revolutionised the transport system.

Subandrio, Dr. A former Foreign Minister and Deputy Premier of Indonesia (during the regime of Sukarno). After the unsuccessful communist coup of 1965, Subandrio continued to be the Foreign Minister till March, 1966 when he was arrested, tried and sentenced to death. He is awaiting execution.

Suharto, Gen. Indonesian soldier and the country's present President. After ousting President Sukarno from power, he took over the reins of effective power in March, 1966 and was formally installed President of Indonesia on 27 March, 1968. During President Sukarno's regime, he was the Chief of the Indonesian Armed Forces. [*Promotion Exam. (Army) Part 'D', May, 1967*]

Sun Yat-sen, Dr. (1868-1925). Chinese reformer and politician; founder President of Chinese Republic; organised the revolutionary party in 1893; overthrew the Manchu Dynasty and became President in 1911; resigned soon after and organised the Kuomintang.

Svetlana. Daughter of late Joseph Stalin, the Russian Dictator. She defected to the West in March, 1967 and has since remarried and settled down in the USA. In early 1967, she had visited India to deliver the ashes of her former Indian husband, Mr. Brijesh Singh, to his relatives at Kalakankar in U.P. The USSR has revoked Svetlana's citizenship.

Svoboda, Ludvik, Czechoslovak General who succeeded (on March 30, 1968) Antonin Novotny as the President of Czechoslovakia. Defence Minister in the first post war (non-communist) government of Czechoslovakia, he has never been a member of the Communist Party's Central Committee.

Schweitzer, Albert (1875-1965). German philosopher, physician and missionary in equatorial Africa; having devoted himself entirely to the service of African people since 1913, he died in harness in 1965; he was awarded the Nobel Prize in 1962.

Tensing Norgy. A former Sherpa and at present Director of Mountaineering School at Darjeeling. He accompanied almost all the important expeditions to the Everest up to 1953; he and Edmund Hillary reached the top on 29th May, 1953 and became the first conquerors of the Everest. (*N.D.A., and U.P.S.C. Clk., Gde., 1963*)

Thant, U. A Burmese national, and a former leader of his country's delegation to the UNO, he is at present Secretary General of the World Body. He was awarded the first Nehru Peace Prize for "international understanding". (*Clks. Gde., 1968*)

Thieu, Nguyen Van. See under Nguyen Van Thieu.

Tito, Marshal Josip Broz (b. 1892). Yugoslav Communist leader and President; emerged as a partisan leader against the Axis in 1941 and by 1943 controlled vast area of the country; in 1945, his National Liberation Front won the elections and Tito had King Peter II deposed; he himself became Premier of the People's Republic of Yugoslavia; he developed differences with the Cominform in 1948 and was ousted from the communist fraternity.

Tshombe, Moise. A protagonist of colonial rule in Congo, he was the architect of Katanga's secession from the Union in 1961.

He is generally held responsible for the murder of Patrice Lumumba, the first Prime Minister of Congo. He was detained in Algeria where he died on 29th June, 1969.

Trotsky, Leon (1879-1940). Russian revolutionary; took active part in 1917 revolution; after Lenin's death in 1924, he led the leftist opposition against Stalin; ousted from Russia in 1929, he settled near Mexico city; founded the Fourth International; he was killed by an assassin in 1940.

Trudeau, P.E. The new Prime Minister of Canada who took over from Mr. Lester B. Pearson in April, 1968. A 46-year old bachelor from Quebec, he is the fifteenth Prime Minister of Canada.

Urey, H.C. (b. 1893). American chemist and winner of 1934-Nobel Prize for isolation of heavy hydrogen; he did very useful researches on atomic bomb including methods of separating uranium isotopes and production of heavy water.

Van Gogh, Vincet (1853-90). Dutch painter of Impressionist School; his best works belong to the period he was lodged in a lunatic asylum; he killed himself in 1890; his paintings enjoy worldwide popularity. (I.M.A., 1966)

Volta, Alessandro (1694-1778). Italian physicist and inventor of electrophorus, Voltaic Pile and Voltaic Cell.

Voltair, F.M.A. de (1694-1778). French philosopher, playwright and author; he fought against intolerance and religious bigotry and worked for social reform. His outstanding works are *Merope* and *Mohamet* (Plays), *Candide* (Novel) and some histories. (I.A.S., 1963)

Washington, George (1732-99). First President of the U.S.A. and C-in-C of the Continental Army in American Revolution; called father of the nation; captured Boston (1776); British armies surrendered to him in 1781; headed Federal Constitutional Convention and was unanimously chosen first President (1788); he was re-elected but refused the third term. (Stenos, 1966)

Watt, James (1736-1819). English inventor; his experiments as mathematical instrument maker resulted in the evolution of the steam engine; he also invented the governor.

Weaver, Robert C. He was the first Negro to become a member of the US Presidential Cabinet. He had been assigned the charge of Housing and Urban Development in the Johnson Administration.

Weizmann, Chaim (1874-1952). Famous scientist, Zionist leader and first President of Israel; he made important researches for the manufacture of explosives during World War I.

Wellington, Duke of (1769-1852). British soldier and politician; during 1808-14, he won famous battles against the French and Spain in Europe; his greatest victory was, however, at Waterloo in 1815 where he defeated Napoleon; he was the Prime Minister of Britain from 1828 to 1830. (S.C.R.A. 1961)

Whittle, Sir Frank (b. 1907). English aeronautical engineer; he evolved the jet aircraft engine.

Wilberforce, William (1759-1833). English philanthropist and the campaigner for the abolition of slavery ; he fought within and without the Parliament and was the spirit behind the bill for abolition of slavery of 1807. (*Baroda Engg.*, 1960 ; *I.N.*, 1966)

Wilson, Harold (b. 1917). Former Prime Minister of United Kingdom (1964-70) and an important Labour leader. Since Labour Party's defeat in general election in June, 1970, Mr. Wilson has been the Leader of the Opposition. (*N.D.A.*, 1967)

Wilson, Woodrow (1856-1924). American statesman and President (1913-21) ; author of "*New Freedom*", a policy of govt. reforms ; famous for his "*Fourteen Points*", necessary for a peace settlement with Germany after the First World War ; was one of the founders of the League of Nations. (*I.N.*, 1966)

Worrei. Frank. The famous West Indies Test cricketer who died on 13 March, 1967. He was one of the greatest cricketers of all times. He was knighted for his rich contribution to the game.

Xuan Thuy. North Vietnamese revolutionary, a journalist and an experienced negotiator, he is at present his country's chief delegate to the Paris Talks on Vietnam.

Zafrullah Khan, Sir Mohd. An eminent jurist and a former Foreign Minister of Pakistan. He is an Ahmediya. A Judge of the International Court of Justice at the Hague since 1954, he was elected President of the Court on 19 February, 1970.

Zeppelin, Count (1838-1917). German aeronautical engineer who made the first airship in 1906 ; the planes were used by the Germans in the First World War.

Zoroaster (Zarathustra) (800 B.C.). Persian religious leader, prophet and a reformer ; Parsees of India are his extant followers ; Zoroasterism was the religion of the Persians from 603 B.C. to 800 A.D. ; he preached monotheism and large-hearted tolerance ; he worshipped fire as manifestation of God as well as a symbol of good.

CHAPTER 11

HYGIENE AND PHYSIOLOGY

Q. What do you understand by the following :

(i) Respiration (ii) Fumigation (iii) Light Year (iv) Vitamins and (v) Isobars (on a weather map). (*Engg. Ser. Electronics, 1970*)

Ans. (i) It is the process by which living organisms, or their components, take oxygen from the atmosphere and give off carbon dioxide. (ii) It is the process by which bacteria, insects and other pests are destroyed by exposing them to poisonous gas or smoke. (iii) and (v) See under *Geographical Terms* (iv) See page 346

Q. (a) What are the constituents of a balanced diet, and what is the function of each, in the growth of the human body ?

(b) Deficiency of which constituent(s) is the cause of the following ?

(i) Bleeding of gums (ii) Goitre (iii) Dehydration (iv) rickets.
(*Stenographers, 1970*)

Ans. (a) A balanced diet must contain a minimum of food energy i.e. 3,000 calories for a man of moderate work. Mixed diet must contain sufficient protein (meat, eggs, milk, beans), fats (oils), carbohydrates (sugars, starches), vitamins (fruits, vegetables) and mineral salts. Proteins contain all enzymes and are for body-building and repairing the body wastes, fats and carbohydrates for heat and energy, vitamins for preventing various deficiencies in the body and salts for digesting the food and for making it palatable.

(b) (i) Vitamin C (ii) Iodine (iii) Water (iv) Vitamin D and Calcium.

Q. Write notes on the following :

(i) Proteins (ii) Insecticides (iii) Mariners 6 and 7.

(*C's Gde., 1970*)

Ans. (i) Foods or substances containing nitrogen and consisting of vital cellular constituents and enzymes. They are essential organic components of cell structure and are necessary for cellular maintenance and perpetuation. They are required for making flesh, repairing the waste of the body and for producing heat and energy in the body. They are had from meat, milk, eggs and beans. (ii) Powdery or liquid substances that are used to destroy insect pests. They are applied by dusting, spraying, fumigating or by aerosol method. (iii) Mariner 6 and 7 were launched by NASA in February and March, 1969 and were designed to probe the surface of Mars, the nearest planet to Earth. The data sent by these satellites give no traces of existence of life-giving nitrogen on Mars. There is, therefore, no life on Mars.

Q. (a) Write a paragraph on the function of the kidneys in the human body. (about 50 words)

(b) Which parts of the body are most commonly affected by the following diseases ?

(i) Meningitis (ii) jaundice (iii) pneumonia (iv) goitre (v) typhoid and (vi) diphtheria.
(*I.M.A, Maji, 1970*)

Ans. (a) See page 325.

(b) (i) Brain (ii) liver (iii) lungs (iv) thyroid gland (v) intestines and (vi) air passage.

Q. Complete the following sentences by substituting a suitable word from those given in the brackets :—

(i) In a thermos flask, glass walls are silvered to prevent loss of heat by.....(conduction, convection, radiation) (ii) Scurvy is a disease caused by the deficiency of vitamin.....(A, B, C, D.) (iii) Starch is digested by.....(insulin, bile, ptyalin) (iv) When iron rusts its weight.....(decreases, remains the same, increases.) (v) Blood clots are due to the formation of.....(resin, fibrin, pepsin).
(N.D.A., May, 1970)

Ans. (i) radiation (ii) C (iii) insulin (iv) increases (v) fibrin

Q. Describe the various functions of the liver in a human body. (about 15 lines).
(I.N. Dec., 1969)

Ans. See page 324.

Q. (a) Give a brief account of the cause, symptoms and prevention of smallpox.

(b) Give the anatomical names of the following :—

(i) Thigh bone (ii) collar bone (iii) two bones of the forearm and (iv) two long bones of the leg.

(c) Fill up each blank by a single word :—

(i) Leucocytes help in resisting———(ii)——— is a drug which can kill bacteria of tuberculosis and plague. (iii) Pneumonia is caused by the inflammation of the———(iv)——— discovered germs of cholera, (v)——— is a disease of the blood. (vi)——— is an enzyme found in the saliva.
(I.N. Dec., 1969)

Ans. (a) See page 333.

(b) (i) femur (ii) clavicle (iii) ulna, radius (iv) tibia, fibula.

(c) (i) infection (ii) streptomycin (iii) lungs (iv) Robert Koch (v) Anaemia (vi) Ptyalin.

Q. Write one sentence to define each of the following :—

(i) Hormones (ii) Enzymes (iii) Chlorophyll.

(Indian Forest Service, 1970)

Ans. (i) and (ii) See under *Medical Terms*. (iii) See under *Scientific Terms*.

Q. What is the function of liver in our body ?

(Geologists, 1970)

Ans. See page 324.

Q. Describe the kidneys and their function in a human body (15 lines).
(I.N. July, 1970)

Ans. See page 325.

Q. Fill up each by a single word :

(i) The——— of a person suffering from malaria is enlarged. (ii) Jaundice is a disease of the———. (iii) To correct short sight we require a———lens. (iv) Diabetes is caused by improper secretion of———(v) The liver stores——— as a source of reserve energy. (vi) Vitamin D prevents the disease known as———(vii) The——— mosquito spreads malaria. (viii)——— forms the most nourishing part of the diet.

Ans. (i) spleen (ii) liver (iii) concave (iv) insulin (v) sugar (vi) rickets (vii) Anopheles (viii) protein.

Q. What are the serious consequences of protein deficiency? Mention some important new sources of protein (not more than 150 words). (I.A.S., 1969)

Ans. Proteins are complex substances containing nitrogen and consisting of vital cellular constituents and enzymes. They are universally present in all living organisms and form an essential part of protoplasm. Their presence in cells and tissue is essential to life. Protein synthesis is the key to cellular maintenance and perpetuation. Protein deficiency results in deterioration in such functions as making of flesh (cellular maintenance), repair of tissues and production of heat and energy in the body and may lead to such maladies as retarded growth and development, apathy and anorexia, alterations in skin and hair pigmentation, fatty liver and diarrhoea. A serious protein deficiency can even endanger life. Some new sources of proteins are soya bean and various animal extracts. According to latest researches, proteins can also be obtained from coal.

Q. (a) Distinguish between (in about 30 words each) :—

(i) infectious and contagious diseases (ii) antibiotics and antiseptics (iii) meteor and comet (iv) inoculation and injection (v) climate and weather.

(b) Name the most important food constituents in the following :

(i) Potatoes (ii) meat and (iii) butter. (I.E.S., 1969)

Ans. (a) (i) Infectious diseases are those communicable diseases which spread by the agency of atmosphere or water. Contagious diseases are those which are communicated by direct contact between two bodies. (ii) Antibiotics are substances which selectively destroy bacteria within the body without harming the human tissue. Antiseptics are external agents which inhibit bacterial growth and prevent decomposition. (iii) Meteor is a shooting star—a mass of matter rendered luminous by collision with earth atmosphere. A comet is a heavenly body consisting of a hazy gaseous cloud with a brighter nucleus and a fainter tail. (iv) Inoculation is a process to obtain immunity to disease under conditions of health whereas an injection is a remedy during the onset of disease. (v) Weather is atmospheric conditions prevailing at a place and time. Climate is the sum total of conditions of temperature, dryness, wind and light in a region over a considerably long period of time i.e. a year or so.

(b) (i) starch (ii) protein (iii) fats.

Q. What are the following ? (2 lines each)

(i) Rickets (ii) cataract (iii) pyorrhoea (iv) pancreas (v) white blood corpuscles. (Stenographers, 1969)

Ans. (i), (ii), (iii) See under *Medical Terms*. (iv) See under *The Digestive System* (v) White blood corpuscles are living organisms, small jelly-like creatures each with a nucleus. They eat up disease germs that enter the body.

Q. Distinguish between the following (4 lines each) :

(i) Carnivorous and herbivorous (ii) Parasites and scavengers
(iii) Birds and reptiles (iv) Mosses and ferns (v) Antiseptic and aseptic. (S.C.R.A., 1969)

Ans. (i) Carnivorous are the animals and plants that feed on flesh. Herbivorous are the animals which subsist on plants. (ii) Parasites are animals or plants living in or upon another and drawing nutriment directly from it. Scavengers are animals feeding on the flesh of dead animals. (iii) Birds are feathered vertebrates which fly in the air. Reptiles are a class of animals like snakes, lizards and crocodiles which crawl close to the ground. (iv) Mosses are small primitive plants, creeping or erect but often evergreen growing in bogs, on trees, stones etc. Ferns are ornamental plants, flowerless and perennial, ranging from climbing fern to tree fern. (v) Antiseptics are external agents which prevent bacterial growth and putrefaction. Aseptics denote wounds, instruments etc. free from septic material or germs.

Q. Write a note on hormones (about 8 lines) :

(I.M.A., Apr., 1969)

Ans See under *Medical Terms*.

Q. (a) What are the principal blood vessels in a human system? Give their functions.

(b) Give a brief account of the cause, symptoms and prevention of malaria.

(c) With what parts or organs of the human body are the following diseases associated?

(i) Pyorrhoea (ii) trachoma (iii) eczema (iv) rheumatism (v) jaundice.

(d) Fill up each blank by a single word :—

(i) Insulin is secreted by the———(ii) Pituitary is a———gland. (iv) A cure for the rabies was developed by———(iv) Pneumonia is caused by the inflammation of the———(v) A———gland lies at the top of each kidney.

Ans. (a) They are arteries, capillaries and veins. For details see under *The Circulatory System*.

(b) See page 332.

(c) (i) gums (ii) eye (iii) skin (iv) joints (v) liver.

(d) (i) pancreas (ii) ductless (iii) Louis Pasteur (iv) lungs (v) suprarenal gland.

Q. (a) Explain the following :—

(i) Ventricle (ii) Fumigation (iii) Ductless (iv) Isotherm (v) Twenty-two carat gold.

(b) Name the eight systems of the human body.

Ans. (a) (i) It is the lower portion of the human heart and is divided into two, the right and the left, ventricles. Right ventricle sends impure blood to lungs which ultimately is received by left ventricle when purified, from where it circulates to the body (ii) Method of disinfection by use of fumes or by burning sulphur. It is also resorted to by gardeners for destroying insect pests upon plants and fruit trees. (iii) Organs in the body that secrete hormones and yield them up to the blood stream without intermediary of a duct. These include the thyroid, thymus, suprarenal, pituitary

etc. etc. (iv) Lines drawn on a map passing through places where temperature of the air is the same at a stated time. (v) 24 carat gold is pure gold. Thus 22 carat gold contains 22 parts of gold; the rest being some metal usually copper.

(b) The skeletal system, the muscular system, the digestive system, the excretory system, the respiratory system, the circulatory system, the nervous system and the reproductive system.

Q. (a) Describe the important parts of the human brain and explain their functions. (About 15 lines).

(b) Give a brief account of the causes, prevention and cure of tuberculosis. (About 15 lines). (I.N., July, 1969)

Ans. (a) See page 330.

(b) See page 334.

Q. Complete the following sentences, filling in the gaps.

(a) Pyorrhoea is a disease of the———(b) Iron———in weight during rusting. (c) The science which deals with heredity is known as———(d) Deficiency of vitamin 'C' in the body causes———(e) Etna is the name of a———in Sicily. (f) The tallest animal is the———(g) Acoustics is the science dealing with the study of———(h) The bird that never makes its nest is ——(i) Sleeping sickness is spread by a fly called———(j) Insulin is used in the treatment of ——— (Asstt. Gde., 1969)

Ans. (a) gums (b) increases (c) Genetics (d) scurvy (e) volcano (f) Giraffe (g) sound (h) Cuckoo (i) Tsetse (j) Diabetes.

FOOD

All substances called food may be divided into two classes, *Organic* and *Inorganic*. The substances that are obtained from animals or vegetables are called *Organic* food and those obtained from salts etc. are *Inorganic* food.

Organic Food. The *Organic* foods comprise : (i) The substances that contain Nitrogen, the *Proteins*; (ii) Fats and Oils, also called *Hydrocarbons*. (iii) Sugars and Starches, or *Carbohydrates*. (iv) Vitamins.

Proteins. These are the foods or substances containing nitrogen. Proteins are the vital cellular constituent, and include all enzymes. Protein synthesis is the key to cellular maintenance and perpetuation because proteins are the most important organic components of cell structure and function. Amino acids are the unit structure of protein. These are required for making flesh, repairing the waste of the body and for producing heat and energy in the body. Some of the proteins are *casein* in milk, *myosin* in meat, *legumin* in beans and *albumin* in eggs.

Fats and Oils (Hydrocarbons). Fats are compounds of glycerine with fatty acids, containing no nitrogen. They are useful to repair and renew the fatty tissues, to warm the body and to produce energy. These foods are largely consumed in the cold countries. Fat serves as a store of food and also protects delicate organs in the body. Fats are obtained from butter, ghee, cream, milk, eggs, vegetable oils and animal flesh.

Sugars and Starches (Carbohydrates). These contain carbon but no nitrogen; they have hydrogen and oxygen in the proportion

as water has. Hence their name *Carbohydrates*. They include such substances as glucose, cane-sugar, milk-sugar, starch etc. They are useful to give energy and form fat in the body. Sugar is obtained from sugar-cane, beet and animal milk. Starch is present in most seeds and roots. It is the principal food of men. It is obtained from rice, potato, sago, millet, plantain, maize, wheat and oats.

• **Vitamins.** They are an important substance in our food, the deficiency of which can cause *Scurvy* (among sailors), *Rickets* (among children), *Beriberi* and *Pellagra*. Fruits and raw vegetables are the chief source of vitamins. Vitamins A and D are obtained from oils, vitamin B from wheat, rice and maize, vitamin C from fruits and some vegetables. (For details please see under the heading *Medical Terms*).

Inorganic Foods. These comprise various kinds of salts that are essential for the body. They are :

Common Salts : for digesting food;

Lime Salts : for making bones and found in milk, eggs and green foods;

Iron Salts : for the red cells of the blood and found in eggs and red meat;

Phosphorus : needed for bones, brain and the nerves. It is obtained from fish and other foods.

Balanced Food (Standard Diet). The value of foods is generally expressed in terms of their heat value, *i. e.* calories. A large calorie is the amount of heat required to raise the temperature of one kilogram of water to one degree centigrade. The heat value of one gramme of each of the three nutritive constituents of food, when metabolised within the body, is Proteins : 4.1 calories, Carbohydrates : 4.1 calories and Fats : 9.3 calories.

(I.A.S., I.R.S.E., 1966)

While preparing or prescribing a standard diet the points that must be taken into consideration are (i) It must contain a minimum amount of food energy *i.e.* about 3,000 calories for a man of moderate work. (ii) A great variety of food must be included in proper proportion. (iii) Age, sex, work and conditions of health of the person concerned and climate of the place should be taken into account. (iv) Tastes and desires of the person should be considered.

THE HUMAN BODY AND ITS SYSTEMS

The human body has the following systems :—

1. The Skeletal system. 2. The Muscular System. 3. The Digestive System. 4. The Excretory System. 5. The Respiratory System. 6. The Circulatory System. 7. The Nervous System and special sense organs.

THE SKELETAL SYSTEM

The bony skeleton supporting the human body is constructed to strengthen the muscles which produce movement in the body and to give it shape. The fore limbs of the human body are supported by bones forming a shoulder girdle and similarly the leg bones are connected to others forming a pelvic girdle. Ribs connected to the back bone (including those connected to the breast bone) serve

to protect certain internal organs, including the heart and the lungs. Man's structural superiority over other animals is due to the straight femur or thigh bone and his erect poise of the head.

The above features enable the man to walk in an erect position so that his hands are free to perform other functions. These structural advantages and the formation of his skull and lower jaw are responsible for an increase in brain power and intelligence in man, compared with other mammals.

The human bony system consists of 206 bones of various sizes. The bones are composed of cells, which are softer in early childhood than in adult life. Where bones meet there is a joint, which may be simply an immovable junction as in the bones of the skull or may be movable joint as that of the knee. The movable joints are necessary for the motion of human body.

THE MUSCULAR SYSTEM

Muscles are attached to the bones and consist of bundles of fleshy fibres, capable of contraction or shortening when required. Such contractions help the various limbs of the body to move. The muscles are of two kinds, namely the *voluntary muscles* whose movements are controlled by human will and the *involuntary muscles* which perform their function without any conscious effort of the will. These include the heart, the muscles of the stomach and those of the intestines. Their movements are rhythmic and we are not conscious of their action.

THE DIGESTIVE SYSTEM

As explained earlier, the food that we take comprises proteins, sugars and starches, vitamins, salts, water, fats and oils. Only a part of these substances is useful to the body and the rest, which is indigestible, must be got rid of. The good and digestible part has to be prepared to enter the blood.

The food is broken up by the teeth and, after mixed with saliva, is swallowed. Saliva is an alkaline fluid which is poured into the mouth from the salivary glands. Digestion of food starts in the mouth itself. From the mouth the food enters an expanded cavity behind, the *Pharynx*, which is also common to the air-passage at this level. It then passes into the gullet.

The Gullet. Like stomach and intestines, the gullet is a muscular organ and can force the food along if necessary. With the help of this muscle, a man can drink even if standing on his head. About nine inches long, the gullet ends in the stomach. It is here that the second stage of digestion takes place.

The Stomach. The stomach is a hollow muscular organ lined by a glandular *mucous membrane* which secretes the gastric* juice. The secretion starts only on the arrival of food material in the stomach. Gastric juice is made up of hydrochloric acid, salts, pepsin and water. The stomach mixes the food well by moving it round

*Emotional conditions exert their influence on gastric secretion. Fear and anger check this secretion and humid weather depresses it. In these cases, indigestion occurs.

and round. At this stage, the proteins are changed to a form in which they can pass through the stomach wall and be absorbed, at once ready to nourish the body. Starches and proteins are now acted upon, though not digested completely. Fat and oil are broken up and the oil is set free. The stomach digestion may take one to three hours. The food is then passed on to the small intestine.

The Small Intestine. The small intestine is a long tube which, when uncoiled, may measure about 21 feet. It ends by joining the large intestine. Here we have to consider the action of three different digestive juices *e.g.* the pancreatic juice, the bile formed by the liver and the intestinal juice which is the secretion of the small glands of the bowel lining. Food passes through the wall of the intestine into the lacteal, and so into the blood. The *bile* and *pancreatic* juice are produced by the *liver* and the *pancreas* respectively.

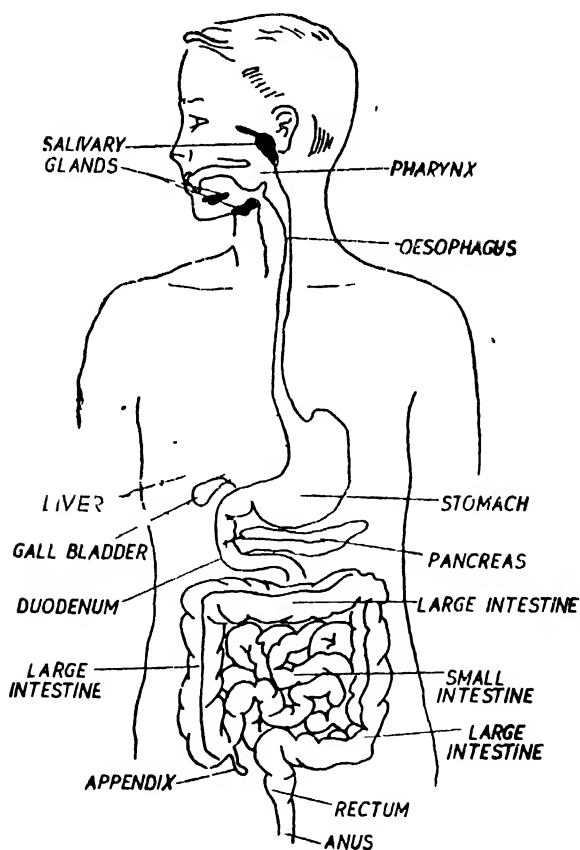


Fig. 1

The Liver. The largest organ in the body, it is situated just underneath the diaphragm rather on the right side. Its weight is

three to four pounds. There are fine tubes in the liver called bile ducts into which the cells of the liver secrete bile, and the bile ducts join together and form the *Hepatic Duct* which carries the bile to the duodenum (first part of small intestine).

Bile is a yellow fluid, containing mucus, water and special salts (called bile salts). It acts on the fats and oils and breaks them up into very small drops. Liver is also a storehouse for sugar which it puts in the blood when it is required by the body.

(S.C.R.A., 1966)

The Pancreas. About seven inches long, it is another large gland, reddish yellow in colour. It lies behind the stomach, and a tube from it called the *Pancreatic Duct* enters the intestine near where the bile duct enters. The pancreatic juices act on the protein, the starches and the fats.

The Intestine is an organ of digestion as well as of absorption. The food, now digested, can pass through the walls of the intestine and is taken into the blood. It is then distributed all over the body. Food remains in the small intestine for about 12 hours and is slowly passed on towards the large intestine. (I.A.S., 1960, S.C.R.A., 1966)

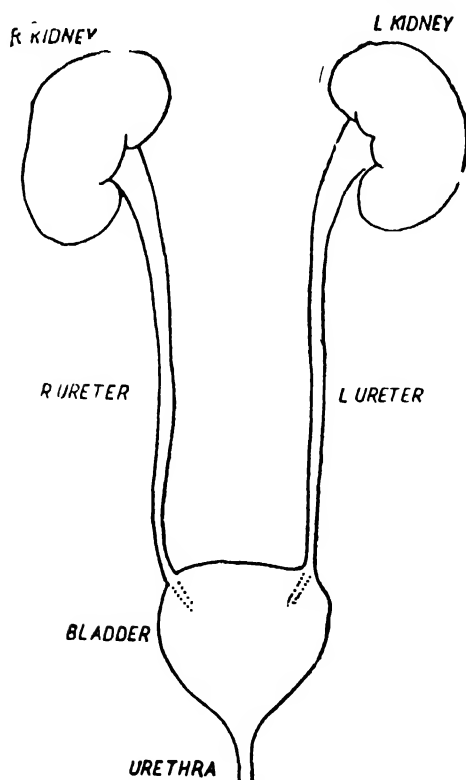


Fig. 2

backbone in the small of the back or loin. It has the real artery

The Large Intestine. A tube about 6 feet long, the large intestine is little concerned with digestion or absorption of food, for most of this has already been done. Food remains here from 24 to 36 hours. Due to loss of water, the material in the large intestine now hardens as it reaches the rectum. Finally, the indigestible remnant is turned out.

THE EXCRETORY SYSTEM

Termed as the Sanitary System of the City of Body, it comprises the kidneys, skin, lungs and bowels. The system is designed to help get rid of the waste matter in the body when all juices have been extracted from the digested food.

The Kidneys. There are two kidneys, situated one on each side of the

which brings blood to it, and the renal vein which takes it away. In addition, there are the usual nerves, the lymphatic vessels and the Ureter, the tube that takes urine from the Kidney to the Bladder. The Bladder is the reservoir for urine.

Urine, a pale yellow liquid carrying the waste nitrogen from our protein foods and also mineral salts, is secreted in the two kidneys. The kidneys may be regarded as a pair of filters, through which about 2 pints of blood circulates every minute. In fact, the whole blood in the body passes through the kidneys in five to six minutes. Urine is propelled down along the ureters from the kidneys to the bladder by successive waves of contraction in the muscular walls of these channels.

(I.A.S., 1965; S.C.R.A., 1966)

The Bladder is an elastic membrane sac serving as a temporary reservoir for urine, secreted by the kidneys. Its normal adult capacity is about 1 pint. The urine is discharged into the bladder in intermittent jets every 20 seconds or so. The outlet below the bladder is normally closed by a tight ring of muscle called *Sphincter*. In emptying, the bladder contracts and the sphincter relaxes to allow efflux of urine.

The Skin. It is the tissue covering the flesh of the body. It has two layers, the top one called the *Epidermic* or scarf skin and *Dermis* or true skin. The latter is richly supplied with blood vessels. The skin is designed to (i) protect the body, (ii) to act as an organ of excretion by means of the sweat glands. It thus helps to regulate the temperature of the body; and (iii) to give the sense of touch.

The skin has hair and sense organs. The latter are little lumps in the *Dermis* which are nerve endings. They report to the nervous system when anything comes into their contact. The skin also has two kinds of glands, the *Sebaceous Glands* which secrete an oily substance serving as lubricant to the skin and the *Sweat Glands* which make the skin as an excretory organ. The function of the latter is to take up sweat from the blood and pour it out on the skin. Though all water, the sweat contains salts, fats and tiny bits of skin.

(I.A.S., 1953)

Bowels. Bowels are the intestines, both large and small which serve to complete the digestion of food and to allow of its absorption into the blood-stream. The useless food remains are gradually moved onwards and are hardened in the large intestine wherefrom they are ready to be thrown out. The failure of the bowels to function is called *Constipation*.

Lungs. The lungs (comprising two elastic spongy masses almost filling the chest cavity) throw off carbon dioxide, water (in the shape of vapour) and also some organic matter. They are, therefore, organs of excretion in addition to being organs of respiration.

THE RESPIRATORY SYSTEM

This system comprises the lungs and the passages leading to them. The purpose of respiration (breathing) is the entry and

exit of air to and from the lungs. In in-breathing (or inspiration) the chest cavity is enlarged and air enters; in out-breathing (expiration) the chest cavity reverses its action and the air is thrown out. The object of breathing is to bring the oxygen of the air into contact with the blood with the purpose of (a) giving some oxygen to the blood and (b) taking away of waste products from the blood.

The Passages to the Lungs. The air, in going to the lungs, has to go through various passages. They are the Nose or Mouth and the *Larynx or Voice Box*. (Fig. 3).

The Nose or Mouth. We breathe through nose or through mouth. There are two passages leading downwards from the nose and the mouth into the body—one takes food and water to the stomach and the other takes air to the lungs.

Larynx or Voice Box. This is commonly known as “Adam’s Apple” and can easily be felt in the throat. It is a cavity (in the throat) holding vocal cords, just at its junction with *Pharynx*. Vibration of cords produces vocal sounds. The air passes from the Voice Box to the lungs by means of the wind-pipe which is about four inches long and one inch wide. It has rings of gristle which keep it open. The wind-pipe, at the lower end, is divided into two branches that go to the two lungs.

The Lungs. The lungs are the most complicated and impor-

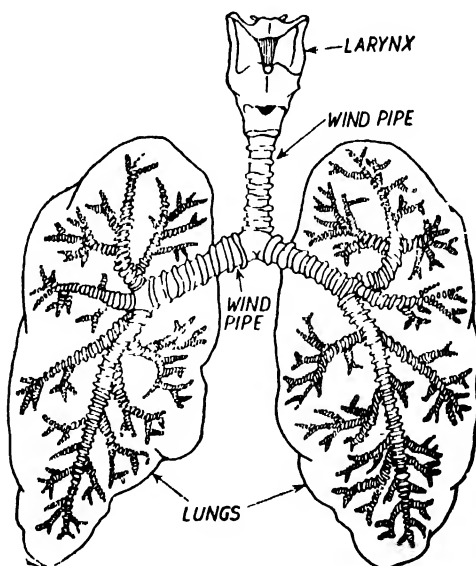


Fig. 3

tant organ of respiration. They comprise two elastic spongy masses, each enclosed in a *pleura*, almost filling the chest cavity. The lungs are made up of millions of little air bags, which are, in

fact, the ends of smallest wind-pipes. Around the air bags are the blood-vessels which are extremely thin and delicate. Thus the blood is always in contact with the air in the bag. To fill the lungs with air, the chest is expanded, the lungs also expanding, and the air from outside goes into them.

In the lungs, the air gets very close to the impure blood, that comes from the muscles by way of the heart. The impure blood, dark red in colour, has too much carbon dioxide in it with very little oxygen. This blood comes from the tissues which have taken the oxygen from it but have loaded it with carbon dioxide. In the tissues, oxygen is used every minute to burn up food material, resulting in production of considerable quantity of carbon dioxide. The lung's function is to reverse this state of affairs *i.e.* restoring its oxygen quota and expelling the excess carbon dioxide. Thus the venous blood (the impure blood) is rendered arterial (bright red in colour) in its passage through the lung capillaries. It goes back to the heart and is ready to do its work again. The new oxygen, taken by the blood all over the body, is picked up again by the muscles which need it for their normal functioning.

(I.A.F., 1957)

THE CIRCULATORY SYSTEM

The Circulatory System comprises the blood and heart, with their functions. The blood is continuously propelled by the contractions of the heart and is driven into the *arteries*. The arteries are elastic tubes which by their recoil aid the distribution of the blood to all parts.

The Blood. The blood comprises a clear fluid and innumerable solid bodies called *Corpuscles*. The corpuscles are of two kinds, red and white, and are cellular-shaped. The Red Corpuscles carry *Haemoglobin* which constitutes protein and a little iron. When combined with oxygen, haemoglobin forms a bright red substance and with carbon dioxide it forms a bluish compound. The White Corpuscles are living organisms, small jelly-like creatures each with a nucleus. They are of great importance as they eat up disease germs that enter the body. They are capable of independent movement in the blood stream and within the tissues, and can swallow up dead bacteria and foreign particles.

(N.D.A., Dec., 1965)

Blood performs the following functions :—

- (i) It carries oxygen to every part of the body that requires it.
- (ii) It carries impurities from all parts of the body to the excretory organs namely the lungs, the kidneys, and the skin.
- (iii) It carries food from the digestive system to all tissues.
- (iv) It carries heat to all parts of the body. (S.C.R.A., 1967)

The Heart. The heart is a hollow, muscular, somewhat conical four-chambered force pump, enclosed in a fibrous bag. It is situated in the chest between the lungs and weighs from 10 to 12 ounces. The heart is divided into two parts by a wall running from top to bottom with no direct connection between the parts. These parts are themselves divided into parts, upper and the lower but have

valves between them. The upper portions are called *Auricles* and the lower ones *Ventricles*.

The Circulation of Blood. The motive power of the circulation is the pumping action of the heart which acts as a boosting mechanism set in the middle of a pipeline. When the blood reaches the tissues it loses all its oxygen and is loaded with waste material from the tissues. The impure blood reaches the heart by means of capillaries and veins. With the beat of the heart, it enters into the *Right Auricle* and then to the *Right Ventricle* from where it is taken by *Pulmonary Artery* to the Lungs. In the lung capillaries, the blood comes into contact with oxygen and is purified. The purified blood is now brought back to heart by means of *Pulmonary Ven.* It now enters the *Left Auricle* and when auricles are squeezed during the heart beat, the blood passes to the *Left Ventricle* and then commences its journey again to all parts of the body.

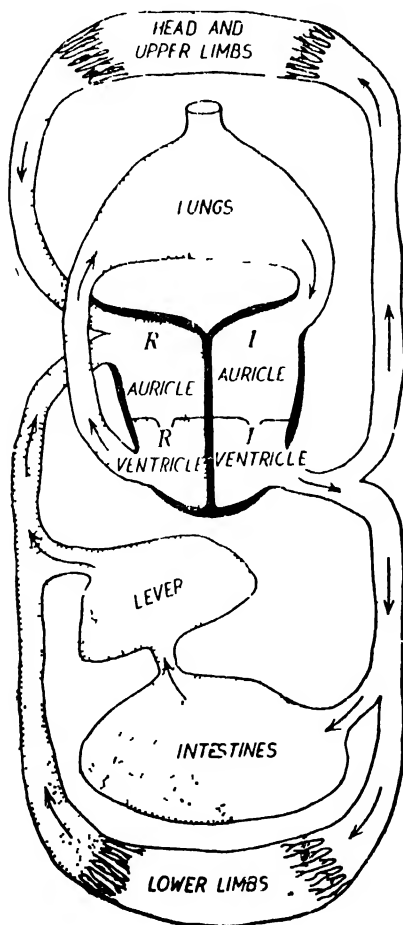


Fig. 4

Thus with the contraction of right and left auricles, the venous blood from the body and aerated blood from the lungs is pumped into their respective ventricles. And when the right and left ventricles contract, venous blood is pumped into the lungs and the aerated blood into the main blood vessels. These rhythmic contractions and dilations, followed by an equivalent pause, are called the **pulse** or **heart beat**. (N.D.A., Dec. 1963)

The Arteries. These are the channels which convey blood from the heart to other portions of the body. The main artery is called **Aorta** which rises from the left ventricle of the heart and by means of its branches conveys the blood to all parts of the body. The **pulmonary Artery** rises from the right ventricle of the heart and with its branches supplies impure blood to the lungs for purification. The arteries are strong-walled yet elastic and expand and contract with the pumping of blood into them by beating of heart. If an artery is cut, there is danger of death due to bleeding because an artery will not close up by itself.

Capillaries. These are ramified blood vessels intervening between arteries and veins. Their walls are extremely thin.

Veins. These are blood vessels that return impure blood from the capillaries towards the heart. The venous system comprises the following :—

1. **General Venous System** including facial, neck, throat and abdominal veins.
2. **Pulmonary Venous System** comprising veins which emerge from the lungs bringing back oxygenated (purified) blood to the heart.
3. **Hepatic Portal System** which drains blood from the stomach and intestines.

THE NERVOUS SYSTEM

It is the most important system since it commands rest of the body what to do and how to work together. While the central nervous system resides in the skull and the spine, the nerves are spread all over body. The nervous system of man is a network pervading the whole body, having a two-way connection with the central control and enabling the individual to give a coordinated response to any stimulus from outside. Thus nerves that carry the messages to the brain are called *Sensory Nerves* and those carrying messages to the muscles with orders to perform a particular action are called *Motor Nerves*.

The Two Nervous Systems. The controlling nerve centres of the body comprise the *Cerebrospinal Nervous System* which is mainly concerned with the movement and sensation of skin, muscles, bones and joints and the *Automatic Nervous System* which deals with automatic functioning of viscera (brain, heart, liver and intestines), the internal organs, the glands and the vessels. The two systems are, however, closely inter-connected.

The Brain. It is the chief centre of the nervous system and is contained within the skull. The brain substance consists of grey and white matter, the grey matter forming a thin, superficial layer (*cortex*). It consists of three parts :

- (i) the *Cerebrum* or the bigger brain;
- (ii) the *Cerebellum* or the smaller brain;
- (iii) *Medulla oblongata* or the spinal bulb.

The *Cerebrum* occupies most of the brain case, and comprises two large masses of nervous material known as the *Cerebral Hemispheres*. There is a layer of *Grey Matter*, about 1/6 inch in thickness which forms the outer portion of the *Cerebrum*. Our consciousness, thoughts, emotions, will, sight, hearing, sensations of pain and memory are intimately associated with the *Grey Matter*. Latest researches show that certain faculties, such as vision and speech, are controlled by definite areas of *Cerebrum*. There are other parts of cerebral hemispheres which control motor nerves operating the arms and legs.

The *Cerebellum* or the smaller brain is connected with the co-ordination of the actions, nervous and muscular, by which the movements of the body are carried on. The *Medulla oblongata* houses the centres of nervous tissue connected with reflex action consisting of movements that take place automatically, such as breathing and walking.

The Spinal Cord. Consisting mostly of nerves, this is like a continuation of the *Medulla* and runs down the back, surrounded by the body arch of the spinal column. This organ is capable of making simple decisions, called the reflex action.

Special Sense Organs. There are different organs in the body that experience the five senses, namely sight (eyes), hearing (ears), taste (tongue), smell (nose) and feeling. There are also some nerves in our muscles that report to the brain how heavy a thing is when it is lifted. Such nerves are called the *Muscle sense*.

COMMUNICABLE DISEASES

An infectious (or communicable) disease is one that can be transmitted from one individual to another or from animals to man. These diseases are due to specific disease micro-organisms.

Insect-borne Diseases— Malaria, Filaria, Yellow fever, Dengue, Relapsing fever and Typhus, Sleeping sickness, Plague.

Water-borne Diseases — Cholera, Dysenteries, Typhoid or Enteric fever.

Worm Diseases — Round-worm, Thread-worm, Tape-worm, Hook-worm, Flukes, Guinea-worm, Trichinae.

Skin Diseases — Ringworm, Craw-craw, Scabies, Yaws, Leprosy.

Contagious Diseases — Measles, Chicken-pox, Whooping-cough, Diphtheria, Mumps.

Venereal Diseases — Gonorrhoea, Syphilis.

Some Common Tropical Affections — Ulcers, Boils, Tetanus.

Diseases Due to Animal Bite — Rabies, Snake bite, Insect bites and Stings.

INSECTS AND THEIR DISEASES

| | |
|------------|---|
| • Flies | — Typhoid, Cholera, Dysentery and Infantile Diarrhoea. |
| Rat-Flea | — Plague, Typhus fever. |
| Sand-fly | — Sand-fly fever, Kala-azar and Oriental Sore. |
| Tsetse-fly | — Sleeping sickness. |
| Mosquitoes | — Malaria, Filariasis, Dengue fever, Yellow fever. |
| Ticks | — African relapsing fever, Tick typhus, Rocky mountain fever. |
| Body Louse | — Indian relapsing fever, Epidemic typhus and Trench fever. |
| Mites | — Scrub typhus. |

SOME COMMUNICABLE DISEASES EXPLAINED

Anthrax. It is caused by bacillus *Anthraxis*. Its incubation period is 2 to 5 days. It affects mainly the hoofed animals. Man gets it as a result of manipulation of any material derived from an infected animal; skins and hides, wool and hair and also the flesh and faeces of infected animals are the chief sources of infection.

Cerebrospinal Fever. *Causes :* This disease is caused by a germ named as *Meningococcus* and has an incubation period of 2 to 10 days. The disease is spread from the secretions from the throat, nose and naso-pharynx of infected persons.

Precaution : (a) Isolation of the patient for 14 days. (b) Disinfection of the house and clothing (c) Free ventilation of all occupied rooms (d) Immediate treatment of the patients.

Cholera. *Causes:* Cholera is caused by the *Cholera vibrio*. The germ is found in the urine and intestinal discharges and vomit but it is not present in the blood. Its incubation period is up to 5 days. Widely prevalent in Asia, its death rate is very high.

Prevention : The sources of the disease are the stools and vomit of infected persons, infected water, milk and icecreams, flies etc. The preventive measures include : (a) Isolation (b) Anticholera inoculation (c) Disinfection of the house and the clothing and (d) destruction of flies etc.

Common Cold. *Causes :* The disease is caused by the acute infection of respiratory tract, primarily involving the mucous membranes of nose and throat. Its incubation period is between 2 and 5 days and it does not last for more than a week.

Prevention. No effective treatment is yet known. Rest in warm bed, and inhalation of steam with menthol is helpful. Isolation of the patient is necessary to help check the spread of infection.

Leprosy. Chronic transmissible disease which attacks skin and nerves and results in mutilations and deformities. It is marked by hard, nodular-swellings in skin, developing into ulcer, or whitened patches accompanied by partial or complete deadening of sensation. Gradually, the extremities of limbs fall away.

Malaria. *Causes :* It is a febrile disease caused by a parasite known as *Plasmodium*, transmitted by mosquitoes of the genus

Anopheles. The parasite thus injected attacks the red blood corpuscles and creates the malady. The incubation period is 14 to 18 days.

Symptoms : It is marked by a chill followed by fever and attended with general symptoms, terminating in sweating phase. It may occur every second or third day or at short intervals.

Precaution : (a) protection of houses from mosquitoes (b) use of mosquito nets (c) destruction of mosquitoes and their eggs (d) spraying of D.D.T. (e) use of anti-malarial drugs.

Measles. A virus-caused contagious epidemic disease with high fever and rash all over the body. Its incidence is among the children and one attack confers immunity.

Mumps. A children's disease with swelling of the salivary glands in front of the ears. It is virus-caused and one attack gives permanent immunity. (Stenos. 1967)

Plague. **Causes :** It is caused by the plague bacillus, *pasteurella pestis*. Its incubation period is between 3 and 6 days. The disease is of two varieties namely Bubonic plague, caused by fleas and Pneumonic plague, conveyed from droplets of sputum during coughing of the infected person. The rat flea, when starved, bites man if rats are not available. The plague bacillus is thus injected into man.

Preventive measures. (a) Complete isolation of the patient and treatment with sulpha drugs (b) Evacuation of the infected premises (c) Haffkine's plague vaccination (d) a general destruction of rats.

Relapsing Fever. **Causes :** The fever is of two kinds; the African Relapsing Fever, caused by the bite of an infected tick and the Indian Relapsing Fever, caused by an infected body-louse. Its incubation period is 3 to 6 days.

Preventive measures. (a) Isolation of the patient (b) disinfection of room, bedding and clothing (c) eradication of the tick and body lice with D.D.T.

Scarlet Fever. It is spread by the throat secretions and discharges from ear and nose of the infected patient. The usual infected period is about 4 weeks. Sometimes it is spread by milk which is infected or contaminated by a carrier. Its onset is rather sudden and is followed by shivering, vomiting and sore throat.

Prevention. (a) Complete isolation of the patient (b) disinfection of home, bedding, furniture and clothing (c) use of only pasteurized milk or boiled water.

Smallpox. **Symptoms.** A highly infectious and contagious disease with incidence among children. It is characterized by strong fever, followed by blisters prominently on the face but generally all over the body. These may leave scars.

Causes : The causative agent is virus. Its incubation period is 10 to 15 days. The infection lasts for about six weeks or till the scabs have fallen off. One attack is said to give life-long immunity.

Prevention. Isolation of the patient; vaccination and revaccination of all contacts; convalescents should not be allowed to mix up with healthy people; disinfection of house, bedding, and clothes.

Tuberculosis. *Causes :* It is caused by the micro-organism called *Mycobacterium tuberculosis*. It may be human type or bovine type. The incubation period is not certain and may take years. Over-work, worry, starvation, debility, influenza, pleurisy and unhygienic living conditions are the factors that make a person susceptible to tuberculosis.

Symptoms include a general loss of weight and appetite, slight feverishness, cough and weakness etc.

Prevention. Complete isolation of the patient in the house or in a sanatorium ; improvement of general sanitation ; thorough disinfection of the house ; special care to be taken about the patient's sputum ; he is not to be allowed to spit anywhere except into a vessel containing disinfectant ; separate utensils, spoon and cups for the patient ; open coughing and sneezing to be discouraged ; proper and regular treatment ; rest and recreation. The disease is no longer fatal and is curable. (N.D.A., 1966)

Typhoid. *Causes :* The disease is caused by the organism named typhoid bacillus, *Salmonella typhi*. The bacteria lie entrenched in the intestines. Incubation period may vary from 3 to 35 days but is usually 7 to 8 days. The sources of infection include stools and urine of the affected person, water, infected and contaminated by intestinal discharges, infected milk and fish, flies sitting on excreta etc.

Symptoms. It is attended by fever, headache, prostration and rash. Its relapse is sometimes dangerous.

Prevention. Isolation, preferably in a hospital: general disinfection of the house and all bowel and urinary discharges and all articles used by the patient; quarantine ; anti-typhoid inoculation for all contacts ; purification of water ; sanitary disposal of excreta and prevention of fly breeding. (I.N., 1966 ; N.D.A., May, 1965)

Typhus. Typhus can be of four types namely louse-borne, flea-borne, tick-borne and mite-borne. It is caused by micro-organism of Typhus belonging to the group known as rickettsia bodies. The incubation period can be between 10 and 12 days. The chief source of the disease is an infected body louse.

CONTROL OF INFECTION

The following measures should be adopted to control or prevent infection of various diseases :—

1. Isolation of the infected person in an isolation hospital or sanatorium or at home. Proper care should be taken to provide ventilation and healthy conditions of living.

2. Quarantine should be imposed on the persons who have been in contact with infected person. Utensils, crockery and cutlery used by the patients, as also combs, towels and other personal effects should be separated from similar effects of other persons in the house. Healthy persons should not be allowed to go very near the patient.

3. Production of artificial immunity by means of protective inoculations.

4. Disinfection or disinfestation.

5. Observance of perfect cleanliness in the house and with regard to clothes, skin, teeth and nails.
6. Proper regulation and control of diet.

METHODS OF DISINFECTION

Disinfection means the destruction of the particular germs of infectious diseases.

Disinfectants. These are the natural, physical or chemical agents that destroy disease organisms with which they are brought into contact.

Antiseptics. These are the agents which merely check bacterial growth and prevent decomposition.

Deodorants. These are the agents that destroy odours or oxidize products of decomposition and so absorb offensive smell.

THE DISINFECTANTS

The disinfectants can be classified into three categories as follows :—

Natural Disinfectants. Air and sunlight.

Physical Disinfectants. Burning by fire, hot dry air, boiling and steam.

Chemical Disinfectants—Liquid solutions, which can be applied directly or by spray and those which are in gaseous form.

CHEMICAL DISINFECTANTS

Liquid Disinfectants. 1. Perchloride of mercury. 2. Mercuric iodide. 3. Coal-tar disinfectants including Carbolic acid, Phenyle, Izal, Cyllin and Lysol. 4. Lime. 5. Potassium permanganate. 6. Chloramine T. etc. etc.

Gaseous Disinfectants : 1. Formaldehyde including “formochlorol”, “Paraform tablets”, potassium permanganate crystals. 2. Sulphur dioxide including sulphur candles, roll sulphur, liquefied gas. 3. Chlorine. 4. Hydrocyanic acid gas. (It is not a disinfectant but is generally used to destroy rats, fleas etc.)

MEDICAL TERMS

Abscess. A localised collection of puss formed in a cavity of the body caused by infection with germs.

Allergy. Excessive sensitiveness to the action of some foods or other substances, normally harmless. Allergic disorders include skin rashes, asthma and digestive disturbances.

(S.C.R.A. 1967)

ALS (anti-lymphocyte serum). This perfect anti-rejection drug, produced in Europe, has been found extremely useful in countering tissue rejection symptoms in patients who have undergone transplant surgery. The serum is administered in the patient when the transplanted organs tend to show a sagging response to tissues and vice versa.

Anaemia. Bloodlessness due to reduction in number or in haemoglobin content of red blood corpuscles. It causes unhealthy skin paleness, loss of energy and palpitation.

Anaesthetic. A drug that induces temporary loss of sensation (insensibility to pain). Chloroform is one of the drugs used for it.

Antibiotics. Substances obtained from living organisms, they selectively destroy bacteria without harming the human tissue. Example : penicillin, streptomycin.

(S.C.R.A., 1967 : *Clks. Gde.*, 1968).

Antibody. Specific substance produced by animal tissues, capable of neutralising or giving immunity against the specific antigen. Immunity to disease by vaccination and inoculation is due to antibodies.

(I.A.S. 1961)

Antidote. Medicine for counteracting poison or disease.

Antiseptic. A drug which destroys germs—Lysol, Dettol. In fact, it is an agent which merely inhibits bacterial growth and prevents decomposition.

Anti-toxin. A substance produced by the blood to counteract the effect of poison or infection.

Appendicitis. The disease is caused by the inflammation of the appendix which is an outgrowth of the large intestine in lower right abdomen. Removal of appendix by means of operation cures the disease.

Arthritis. Inflammation of joints in acute or chronic form. It is accompanied, in some cases, by acute pain and stiffening of joints leading to permanent deformities. Rheumatoid arthritis is almost incurable though its progress can be arrested by strict regulation of diet and proper treatment.

(*Stenos.* 1968)

Aspirin. A non-toxic drug which relieves minor pain and reduces fever. Its excessive dosage is dangerous.

Asthma. A respiratory disease characterized by laboured breathing with a wheezing sound, and cough. It is caused by contraction of bronchi (air tubes).

Astigmatism. Structural defect in the eye or a lens which can be corrected by wearing appropriate lenses.

Atrophy. Wasting away of flesh due to imperfect nourishment.

Autolysis. The disintegration of cells or tissues by endogenous enzymes. By this process, some defective or injured organisms break down into constituents like proteins, lipids and carbohydrates and are eaten up by the healthy cells *i.e.* digested and used in the synthesis of new cells.

Autopsy. Post-mortem examination of a body.

Bacillus. Rod-shaped microscopic organisms (also bacteria) which cause such diseases as tuberculosis, diphtheria, tetanus etc.

Bacteria. Minute unicellular organisms, classified as plants of division of *thallophytes* called fungi. They are rod-shaped, round or spiral in form, measuring between 1/25,000 inch and 1/250 inch. Bacteria are also called *fission fungi* as they multiply mainly by fission. Bacteria are useful as well as harmful for the animals. *Parasitic bacteria* cause such diseases as tuberculosis, diphtheria, typhoid fever, pneumonia, tetanus etc. etc.

Beriberi. A deficiency disease resulting from unbalanced diet low in vitamin B. Consumption of polished rice is the chief cause.

Bile. Brownish yellow alkaline fluid formed in liver which helps in digestion and absorption of fats.

Bladder. Membranous bag in pelvis of human and other animal bodies which serves as a reservoir of urine.

Blood Bank. A store-house for blood where blood is kept under proper temperature to retain its properties. Blood is donated by humans and it is administered in acute cases resulting in loss of blood.

Blood Groups. There are four groups of human blood—A, B, AB and O. While administering blood, it is necessary to know the blood group of the patient because a different group of blood can cause death. Group O is, however, universal and can be given to all.

Blood Pressure, High. Increased pressure of blood on walls of blood vessels, especially arteries. It is no disease in itself but a result of many disorders of kidney and internal poisoning.

Blood Transfusion. Transfer of blood from one person or animal to another.

Bronchitis. Inflammation in a bronchus, the air passage from windpipe to lungs, or its branches caused by bacterial infection or irritation. It is accompanied by cold, fever and pain in the chest. Rest in bed and simple, easily digestible food bring relief.

Cancer. Malignant growth of tumour of unknown cause. The tumour grows wildly and invades surrounding tissues, and spreads through blood vessels and nerves. Excessive smoking and contact with certain complex organic compounds are some of the cancer-causing factors. It is curable at its early stages by means of surgery and radiation.

Caesarean Section (Operation). Removal of child from uterus through abdominal incision, when delivery in the normal way is not possible. Caesar, after whom this operation is named, was born by means of this operation.

Carbohydrates. Organic compound of carbon, hydrogen and oxygen such as sugar, starch and glucose. They are body-building and energizing agents.

Carbuncle. Local inflammation of the tissues of, and beneath, the skin. Swelling is hard and painful.

Cardiograph. An instrument for recording the character and movements of the heart.

Caries. A dental disease associated with the decay of teeth. It is caused by acids arising from decomposed particles of food sticking between the teeth.

Carrier. An agent by which something is carried, especially an individual harbouring germs of a specific infectious disease and capable of transmitting them to others.

Cataract. Clouding of the lens of the eye which reduces visual clarity, and occasions blindness. (S.C.R.A., 1967)

Catarrh. Inflammation of the mucous membrane of the nose, throat and bronchial tubes with troublesome discharge. It has all the symptoms of the common cold.

Chickenpox. A highly infectious disease of the children, characterized by feverishness followed by skin eruption all over the body. One attack of this disease is said to give life immunity.

Chilblain. A localized painful erythema (congestive or exudative redness of the skin) on the fingers, toes or ears, produced by excessive exposure to cold.

Chromosomes. Rod-like or thread-shaped bodies, hundreds of which are found in the nucleus of every animal or plant cell carrying genetic material.

(*P.C.S.*, 1960; *I.R.S.E.*, 1959; *N.D.A.*, May, 1962)

Chloroform. A thin, colourless anaesthetic in liquid form. Its vapours, when inhaled, produce insensibility to pain.

Chronic Disease. A prolonged but relatively mild disease.

Cinchona. An evergreen tree whose bark yields quinine.

Colds. A highly infectious disease characterized by inflamed condition of the mucous membrane, hoarseness, running of nose, sore throat, etc. Unless strictly taken care of, it spreads throughout the household.

Colic. Severe abdominal pain due to spasm of an involuntary muscle. It may be caused by indigestible food, constipation or diarrhoea.

Colour Blindness. Inability to distinguish between the different colours though the sight is normal. It is a congenital disease.

Coma. Complete loss of consciousness occasioned by a variety of ailments such as diabetes, brain tumour etc.

Concussion. Shock injury to brain caused by heavy blow.

Convulsion. Any kind of fits; violent irregular motion of limb or body, due to involuntary contraction of muscles usually in the case of children whose nervous system is not yet completely developed.

Crisis. A sudden turning point of a disease.

Cytoplasm. The protoplasm (or the matter of which the biological cells consist) of a living cell outside its nucleus.

Debility. General feebleness of health and weakness which can be the result of various disorders within the body.

Deficiency Diseases. Diseases due to deficiency of some essential elements or nutritive ingredients in food, such as vitamins or fat. The diseases thus caused are beriberi, rickets and scurvy.

Delirium. Disordered mental state accompanied by tremors, hallucinations and sleeplessness. It may be caused by alcoholic excesses or due to several other disorders.

Diabetes. A disease of the pancreas, caused by insufficiency of insulin and resulting in excess sugar in blood and urine. It is marked by excessive secretion of urine, thirst and loss of weight. The cure includes regular injections of insulin, avoidance of sugar and proper control of diet.

Diarrhoea. Loose stools resulting from irritation or nervous stimulation of intestines, sometimes due to bad food.

Diphtheria. An infectious disease, among children, due to growth of mucous membrane of throat. Unless checked at the

initial stages, it interferes with breathing and can cause death. Prophylactic injections are useful in the prevention of this disease. (Stenos, 1968)

Disinfectant. A substance capable of destroying disease germs.

Dropsy. A disease characterised by collection of watery fluid in cavities or tissues of the body.

Ductless Glands. The glands that yield up their hormones (secretions of chemical value) to the blood stream without the intermediary of a duct or tube. They include thyroid, suprarenal, pituitary etc. etc. (Stenos, 1969)

Dysentery. Severe diarrhoeal condition accompanied by blood and mucus. (S.C.R.A., 1966)

Dyspepsia. Indigestion.

Eczema. The term covers a wide range of skin troubles, having characteristics of eczema at times. It can be chronic and acute, dry and moist or infective and non-infective. Either form may be acute, may last for a few weeks or for years. It is accompanied by reddened skin, blisters or vesicles and itching. (N.D.A., May, 1966)

Encephalitis. An acute infectious and contagious disease caused by a virus and showing unusual cerebral (brain) symptoms including increasing languor, drowsiness and lethargy. There is progressive muscular weakness.

Endemic. A disease whose occurrence is a regular feature among certain people living in certain countries under certain conditions. However, the number of cases is limited and the virulence is low. Malaria occurs in endemic form in some countries of South East Asia.

Enema. Injection of some liquid or gaseous substance into the rectum to relieve constipation.

Enteric Fever. Typhoid fever, caused by contaminated water, milk, food or insanitary conditions.

Enzyme. Active principle of ferment, belonging to the class of catalysts. A catalyst is a substance whose presence induces chemical change in other molecules without itself being used up in the reaction. Fermentation of sugars and some other substances into alcohol requires the presence of enzymes. (S.C.R.A., 1965; I.A.S.; 1951; I.S.R., 1958)

Epidemic. A disease whose outbreak in an area is fairly extensive and which is communicated to another area by means of infection such as influenza, measles or whooping cough. (M.W. Jan., 1956)

Epilepsy. Nervous disorder accompanied by attacks of sudden insensibility and froth in the mouth. Its attack varies in frequency and duration. It is a hereditary disease.

Epizootic. An epidemic occurring among animals.

Fats. Oily substances of animal or plant origin. In animals it is a reserve of energy from which the body can maintain heat. In plants, it is stored in seeds and fruits.

Fermentation. Chemical change—spontaneous decomposition—caused by enzyme action such as production of vinegar and alcohol. Pasteur proved that it was caused by yeast.

Filariasis (Filaria or Elephantiasis). A tropical disease caused by parasitic worms introduced into blood by certain flies and mosquitoes. It attacks the tissues and causes swelling and high fever. (S.C.R.A., 1966)

Flu. See under Influenza.

Gall Bladder. It is a pear-shaped bag under liver which stores bile, the alkaline fluid formed in liver.

Gangrene. Numbness or death of a part or area of tissues, occasioned by local stoppage of blood circulation which in turn results from disease or injury. The tissues are damaged beyond repair and their removal is the only remedy.

Germicide. A substance which is an effective germ killer.

Gastritis. Inflammation of the mucous membrane of the stomach.

Gene. The ultimate biological unit of the material of inheritance. The material influences the characteristics developed by the individual so that the similarity between related organisms is produced. It occurs along the length of the chromosomes which the nuclei carry. Dr. James Shapiro and two other Harvard biologists have successfully isolated the gene—a potentially dangerous advance in genetic engineering. Recently, Dr. Har Gobind Khorana succeeded in creating an artificial gene.

Gland. An organ whose function is to produce secretions which are passed to the outside of the gland. It may consist of a cell or a number of them. Most glands are exocrine *i.e.* their secretions are discharged, usually through a tube or duct *e.g.* sweat glands of mammals. There are also in some animals endocrine glands, secreting hormones directly into blood.

(I.A.S., 1964)

Gonorrhoea. A venereal disease which can be treated with penicillin and sulpha drugs.

Gout. A recurring constitutional disorder, characterized by inflammation of joints, excessive increase of uric acid in the blood etc. It is hereditary and is aggravated by over-indulgence in rich food and alcohol.

Gynaecology. Science of the diseases of women.

Haemoglobin. Haemoglobin is a constituent of blood and is complex protein linked to a chemical grouping containing iron, which is responsible for colour. When combined with oxygen, haemoglobin forms a bright red substance and with carbon dioxide it forms a bluish compound. Its value lies in the ease with which it combines loosely with oxygen (in the lungs) to form bright red oxy-haemoglobin, and the ease with which this oxygen is given up to the tissues, leaving the purple reduced haemoglobin.

(P.C.S., Pb., 1964)

Haemorrhage. Bleeding due to injury. It may be caused by the bursting of an ulcer or a vein due to some other disorder.

Heliotherapy. Treating of diseases by means of sun-baths.

Homoeopathy. Originated by Dr. Samuel Hahnemann of Germany, it is a system of medicine based on the principle that a disease can be cured by producing the symptoms of the same disease by giving a minute dose of the drug. He stressed the smallness of the dose and called Homoeopathy as the miracle of the minimum dose.

Hormones. Kinds of internal secretions, produced by glands and passed on into blood circulation. These secretions stimulate the metabolism of other organs. Hormones, produced by endocrine (ductless) glands are taken up directly by the blood but some other glands produce secretions as well as hormones which flow from a duct. One of such hormones is insulin secreted by the pancreas.

Hydrophobia. Highly infectious disease caused by the bite of a mad dog. The disease also occurs in cats, horses and cattle. The virus transmitted by the bite seriously affects the nervous system. In 1884, Louis Pasteur discovered its treatment comprising 14 injections which kill the virus in the incubation period of 20 to 60 days.

Hypermetropia. (long-sightedness). When a person can see distant objects clearly but not the nearer ones, he is said to be suffering from hypermetropia. It is corrected by the use of convex glasses.

Immunity. Ability of the body to resist disease by overwhelming the invading micro-organisms.

Infection. Sickness caused by multiplication of disease micro-organisms within the body.

Influenza. Highly contagious disease, manifested by widespread epidemic outbreaks. It is accompanied by fever, bad throat and watering at nose. It is caused by a virus which also affects the respiratory tract.

Inoculation. The process of producing immunity by injecting the disease-causing germs (live germs) into body to produce a mild form of disease for experimental purpose and thereby causing immunity to the disease. (J.S.W., Jan., 1951)

Insomnia. A disease, characterized by chronic sleeplessness.

Insulin. The hormones secreted by the pancreas, deficiency of which creates diabetic conditions. The insulin injected externally to patients of diabetes is obtained from the pancreatic glands of oxen. This treatment was discovered by F.G. Banting.

Jaundice. A disease characterized by yellowish discolouration of tissues, skin and fluids, loss of appetite and general debility. Its causes include a virus infection, obstruction of bile duct, large-scale destruction of red corpuscles or yellow atrophy of the liver.

Kala-azar. It is an Assamese term meaning Black Fever. Caused by a virus, it is an infectious malarial disease peculiar to oriental tropics. Its cure was found by U.N. Brahmachari.

Kidney. One of the pair of glandular organs in the abdomen near the diaphragm and the spine. Its function is to eliminate blood's waste nitrogenous matter by excreting urine.

Labour. Acute pains of childbirth.

• **L-Asparaginase.** An enzyme (or a non-essential amino acid) which has remarkable inhibitory effect on the growth of tumours in animals. It is used in human leukemia and other types of tumour.

Leukemia. A serious disease characterized by abnormal increase in blood of white cells and accompanied by anaemia. A malignant disease of the bone marrow, it spreads by way of blood. (Stenos., 1968)

LSD (*d*-lysergic acid diethylamide). Perhaps the most powerful hallucinatory drug discovered by man. The use of this drug produces developmental malformations and chromosomal damages resulting in a high rate of genetic damage among infants.

Marijuana. Habit-forming drug, obtained from hemp plant, used for stimulation, excitation and intoxication. The intoxication may be accompanied by such manifestations as thirst, hunger, delusions of grandeur or persecution, uncontrollable hilarity or depression.

Meningitis. Inflammation of membranes of brain and spinal cord, caused by bacterial infection. Its incidence among children is sometimes fatal. The germ mixes with the fluid of the spine and the brain called cerebrospinal fluid. (Stenos, 1967)

Metabolism. The chemical process, characterized by the endless breaking down (catabolism) and building up (anabolism) of organic compounds within the body. This process results in simultaneous release of energy and its utilisation by the system. (I.A.S. 1949)

Micro-organism. A microscopic animal or plant.

Microsomes. Very small-sized granular or bladder-like inclusion in the cytoplasm of a cell. It also includes granules called *ribosomes*.

Myiasis. Any disease or condition that results from the invasion of a part of body of man or animal by the eggs or larvae of fly.

Myopia. Shortsightedness which is a defect of vision, caused by distortion of lens. The defect is correctable by the use of concave lenses.

Narcosis. Insensibility induced by drugs.

Neuralgia. Intense intermittent pain in nerves.

Neurosis. Functional mental disorder causing persistent fatigue, morbidity, intellectual depression and bodily disorders. Some have traced its origin from "compromise between gratification of and defence against libidinal (sexual) impulses" while others trace it to human timidity to face a difficult situation and a lurking fear of an impending failure or disaster.

Organic Puzzles. See Volvox.

Pandemic. When an epidemic disease spreads from one continent to another invading vast territories.

• **Pasteurization.** The process (named in honour of Louis Pasteur who developed it) whereby milk and foods are treated to

remain fit and safe for human consumption. Milk is boiled at 145°F for 30 minutes and then suddenly cooled thereby killing most of the bacteria.

Parasite. Any organism, animal or plant, living on another living organism.

Pathology. The study of bodily diseases to determine their causation and their anatomical and physiological features.

Pellagra. An endemic disease of Southern Europe and Southern America. It is due to deficiency of nicotinic acid (vitamin B) in the diet and marked by recurring redness of parts of the body, weakness, digestive disturbance and convulsions.

Penicillin. An antibiotic drug obtained from secretions of certain strains of the mould *Penicillium notatum* and discovered by Sir A. Fleming. It selectively destroys micro-organisms within the human body without destroying human tissues. The drug is useful for diseases of the lungs and skin and venereal diseases.

(Engg. Services, 1951)

Photosynthesis. The process in which green plants utilize energy of sunlight to make carbohydrates (their food) from carbon dioxide and water. In fact, all life, animal as well as plant, depends upon it for food and oxygen.

(P.C.S., 1960, 63; I.A.S., 1960; I.R.S.E., 1966)

Piles (Haemorrhoids). Dilated condition of veins at the lower end of rectum, occasionally protruding through the anus and accompanied by bleeding. This condition is the result of constipation and certain other internal disorders. It causes irritation, itching and pain when the bowels have been emptied.

Pituitary Gland. It is a pea-like organ slung from the under-surface of the fore-brain and occupies a little socket in the base of the skull. Disease or removal of gland results in arrest of growth, atrophy of the sexual organs, general weakness and premature senility.

Plasma. The colourless fluid part of blood in which the corpuscles float.

Plastic Surgery. Science of restoring or altering human tissues by grafting. This is used to surgically repair the skin especially that of face, damaged by disease, burning or injury. It consists of replacement of skin and mending of nerves.

Pleurisy. Inflammation of the pleura. Caused by a germ, it is generally an accompaniment of other lung diseases. It is marked by pains in the side, dry cough and friction sounds. It can be wet or dry.

Pneumonia. Inflammation of the lungs caused by bacterial or virus infection and accompanied by fever, cough, chills and pain.

Poliomyelitis. Inflammation of grey substance of spinal cord. It is an acute infectious virus disease usually marked by fever, paralysis and muscular atrophy. Muscles of legs and arms are particularly affected.

(Stenos. 1967)

Protoplasm. The matter of which the biological cells consist and, therefore, considered as the physical basis of life. It is the

combination of inanimate chemical substances in a manner that helps life to appear. Thus protoplasm is the seat of all physical and chemical reactions, taking place inside a cell, with which life is identified. Such phenomena as metabolic activities, growth and reproduction, depend on the complex make-up of protoplasmic material. The whole range of living organisms, except viruses, have cells and protoplasm therein.

Pyorrhoea. Inflammation of the gums accompanied by discharge of pus, softening of the bony socket and loosening of teeth.

Quarantine. It means detention, at some special place, of persons who have been in contact with some communicable disease, the period of detention covering at least the longest incubation period of the disease.

Rabies. See Hydrophobia.

Radio Therapy. The treatment of malignant diseases and those of the joint and blood by means of radio-active substances such as X-rays.

Rheumatism. Collective name for various diseases of joints or muscles including lumbago. It is accompanied by inflammation and stiffness of joints, pain and fever. Rheumatic fever is an acute malady and often seriously affects the heart.

Ribosomes. Small granules which occur in the cytoplasm of cells and which appear to be the sites of protein synthesis.

Rickets. A deficiency disease among children and infants, caused by deficiency of vitamins D and calcium, affecting the bone structure and causing bone deformities. (*I.A.S., 1959*)

Ringworm. A fungus-infected disease of the skin, marked by reddish, disc-shaped areas, and severe itching.

Saccharin. White crystalline powder which is an artificial sweetening substance. It is hundreds of times as sweet as sugar and is generally used in sweetening cold drinks. It is also used by the diabetics in place of sugar.

Serum. The fluid component of blood which separates from corpuscles when clotting occurs.

Scurvy. A deficiency disease (due to lack of vitamin C) among children and also adults. It is accompanied by bleeding of gums, anaemia and debility.

Sleeping Sickness. Confined to Africa, this disease is caused by the tsetse fly and is characterized by fever, skin rash, neck swelling and sleepy conditions or madness. The disease is generally fatal. Preventive measures include proper treatment and destruction of tsetse flies.

Spleen. An oblong ductless organ situated in the upper part of the abdominal cavity on the left side. Capable of expansion and contraction, it is a blood-modifying gland both destroying blood corpuscles and forming new ones.

Sporadic. A few cases of disease, occurring here and there.

Sprain. Injury of the ligaments around a joint, such as ankle. The injury tears the vessels and results in swelling.

Sprue. A tropical disease, occurring mostly in Asia and Australia. It is characterized by acute diarrhoea and ulceration of the mouth.

Sterility. Inability to have children. It may occur in the man as well as in the woman.

Stotolon. A recently discovered fungal product, showing marked properties to kill off viral infection.

Sulpha Drugs. Series of new drugs developed from sulphur and used in the medical treatment of various skin and bacterial diseases.

Suprarenal Glands. Also called Adrenal Glands, they are found in the abdomen (two in number) one each at the top of kidneys. The gland has an inner core called *medulla* which is connected with the sympathetic nervous system and calls forth resources of the body in an emergency, and the *cortex* which is connected with the sex glands. Abnormal function of the latter alters the psychological make-up and direction of sexual desire. Many women looking like men and having male sexual desires are so because of the malfunction of the adrenal cortex. (I.A.S., 1964)

Syphilis. Highly contagious and infectious disease transmitted mainly by sexual intercourse but also by contact with a virus-contaminated medium.

Tetanus (Lockjaw). An infectious disease which is caused by bacillus introduced in the body through a wound from infected soil and characterized by muscular spasms and difficulty in opening mouth. The virus acts specially on the nervous system and brings fatality. Antitoxin injections immediately after the wound are of value.

Thrombosis. Formation of a blood clot in heart or in blood vessels. It can be serious at times and may cause death especially when it interrupts the action of the heart. It may also cause apoplexy.

Thyroid Gland. Ductless gland in neck which secretes an iodine compound directly in blood. Its enlargement is known as goitre.

Trachoma. A chronic and contagious eye disease, caused by virus. A long spell of this disease may cause blindness.

(Stenos., 1968)

Transplant Surgery. It is the surgical grafting of animal organs in humans and human organs in animal bodies. The organs which have so far been surgically transplanted are kidneys, hearts, livers, lungs and skin. Since the human donors are, for obvious reasons, acutely short of requirements, animals are extensively being used as donors for these organs. ALS (anti-lymphocyte serum), a perfect anti-rejection drug has been found extremely useful in countering tissue rejection symptoms in patients who have been subjected to transplant surgery.

Vaccination. Inoculation with vaccine to produce immunity in the body to smallpox. It was discovered by Edward Jenner.

Venom. The deadly poison, secreted by a gland or glands in the mouth of a snake. It is very rich in enzymes and helps the snake digest its food consisting of whole rodents, toads, frogs and insects. Venom is also used against clotting of blood in human beings.

Virus. A submicroscopic infectious agent responsible for causing numerous diseases in animals and plants. Viruses are parasites that can grow only in the presence of living cells. An attack of a virus disease brings immunity to further attacks of similar nature. The diseases that owe their origin to viruses are rabies, smallpox, chickenpox, mumps, measles, common cold etc., etc. (S.C.R.A., 1967)

Vitamins. The word *vitamin* has been coined by marrying the Latin *vita* (life) and *amine* meaning chemical compounds containing nitrogen. The Vitamins thus denote certain substances, found in foods, that are essential for the growth and maintenance of bodily functions. The vitamins are broadly grouped as those soluble in fat (vitamins A, D, E and K) and those soluble in water (B complex and C). They are found in and are acquired from the following :—

Vitamin A. Essential for general growth and health of skin and mucous membranes; it prevents eye diseases especially night blindness which is caused by a deficiency of this vitamin. It is derived from butter, milk, eggs, cod-liver oil and dark green and yellow vegetables.

Vitamin B Complex. It maintains normal appetite, good digestion etc. and is essential for the growth of the young; it maintains nervous system in good order and prevents beriberi. It is obtained from green vegetables, yeast, eggs, milk, nuts, beans and cereals.

Vitamin C. It prevents diseases of the teeth, soreness of joints, fatigue and exhaustion. It is also called ascorbic acid. As it cannot be stored in the body, its daily intake is important. It is derived from tomatoes, citrus fruits and salads. When these articles are boiled, the vitamins are killed. Its absence causes scurvy.

Vitamin D. It prevents rickets. It is important during pregnancy, lactation and growth. It is present in fats, fish oils and liver.

Vitamin E. Comprising some chemical compounds that help fertility in humans and animals, it is present in green vegetables (lettuces and peas) and in wheat-germ oil.

Vitamin K. It is concerned with the normal clotting in blood and working of liver. (J.S.W., 1952; I.A.S., 1950; I.N., 1966)

Volvox. A border-line organism, classified by botanists as *thallophyte plant* and by zoologists as *protozoan* since it shows characteristics of both plants and animals. It has visual organs, moves from place to place and can digest food. It has, in addition, chlorophyll and can prepare its food from inorganic substances by means of photosynthesis. Such organisms are called *organic puzzles* by the scientists.

Whooping Cough. Infectious disease with incidence among children generally below five years of age. It is characterized by fits of convulsive coughing with the peculiar sound known as "whoop." The first stage of the disease lasts for 14 days, followed by increase in coughing and presence of "whoop" which may last for about two months. It is an extremely painful disease and considerably weakens the lungs and the whole system of the child. Vaccine administered before occurrence gives immunity.

Yellow Fever. A disease prevalent in tropical regions. It is caused by the infectious bite of various kinds of mosquitoes and begins with chilly shiverings, followed by high fever and turning the skin slightly yellowish as in jaundice.

CHAPTER 12

SCIENCE

Q. Write a brief note about any five of the following, taking at least two from each section :—

SECTION 1. (i) Cybernetics (ii) Air pollution (iii) Laser (iv) Hovercraft (v) Thermonuclear energy.

SECTION 2. (i) Pop art (ii) Surf riding (iii) Manipuri school of dance (iv) Polo (v) Ragas. (I.A.S., 1970)

Ans. SECTION 1. (i) It is the theory of communication and control mechanisms in living beings and machines. (ii) The phenomenon of some substances (or contaminants)—gases, liquids, droplets, solid particles or various mixtures—being added to air in sufficient concentration to produce a measurable adverse effect on animal and plant life. (iii) An optical device that produces a powerful highly directional and coherent beam of light which can penetrate a thick iron sheet or even a diamond. It is used in communications and in acceleration of chemical reactions. (iv) An air cushion vehicle that has the ability to hover and move about close to the earth's surface, land or water, obtaining the major portion of its support from a cushion of air trapped between the vehicle and the surface. These machines cannot attain high altitudes as the lifting force depends on the close proximity of the ground. (v) In the fusion process (as in hydrogen bomb), a nuclear reaction occurs between light atomic nuclei as a result of which a heavier nucleus is formed and a large quantity of nuclear energy is released. This is called thermonuclear energy.

SECTION 2. (i) The art of painting or caricaturing with an eye on satire. In painting, the pop artists generally make photographed objects as their subjects in preference to live models. (ii) A Hawaii-originated sport, enjoyed on the open ocean, in which the swimmer, sometimes using a flat board, appears to be riding the wave. As the wave approaches him, the swimmer rises to standing position and rides it until the wave dies out near the beach. (iii) It is a dance form from Manipur, having a sign language, depicting a Krishna legend and, after the traditional manner, performed by the ladies of the court. One of the classical dances of India, this dance is still popular and has many exponents in India. (iv) A popular game, believed to have originated in Iran, played on horseback by teams of four players on a field 300 by 200 yards. (v) A raga is a characteristic oriental melody type with particular melodic contours and the emphasis given to a particular note. The ragas excite, express and sustain moods appropriate to different hours of the day and night.

Q. Answer five of the following :—

(i) Why are cloudy nights generally warm? (ii) Why does a motor car need a radiator? (iv) Can Rontgen rays help in the treatment of cancer? How? (iv) What is an abacus? (v) What is the difference between welding and soldering? (vi) What is the recoil in a gun due to? (vii) What is aerodynamics? (viii) What is

Mendel's law ? (ix) What is the chemical name of common salt ?
(x) What is L.S.D. ? What do the letters stand for ?

(I.A.S., 1970)

Ans. (i) Because clouds prevent the escape into the atmosphere of heat, radiated by earth at night, thus creating warm conditions on earth. (ii) Because, while working, the engine gets heated up and the radiator is a device that continually keeps it cool by radiating the excessive heat. (iii) Yes. Due to their remarkable penetrating ability, the Rontgen rays are capable of destroying the diseased (cancerous) tissues. (iv) It is an instrument consisting of an oblong wooden frame with several beaded wires stretched across it and used (generally by the children) for making calculations by moving the beads. (v) Soldering is the process of fixing one piece of metal on the other by means of heat-melted lead. Welding, on the other hand, is the process whereby two pieces of metal, especially iron, are united into homogeneous mass by hammering or pressure (usually when iron is softened by heat but not melted.). (vi) It is due to the opposite reaction of the forward thrust of the projectile on the firing of a cartridge. (vii) The physics of air and other gases in motion and their mechanical effects. (viii) The law governing the principle of heredity—the fact of some characteristics of parents occurring in their offsprings. (ix) Sodium chloride. (x) It stands for *d-lysergic acid diethylamide*, a hallucinatory drug.

Q. Are the following statements correct or incorrect ? State your reasons.

(i) The North Pole has latitude 90° N and longitude 0° . (ii) A whale is a kind of an animal. (iii) A cow's horns are part of its body structure. (iv) A bee hums through its vocal chords. (v) Lacquer is derived from the gum of a tree. (I.A.S. 1970)

Ans. (i) Incorrect. North Pole is placed at about latitude 75° N and longitude 101° W. (ii) Correct. Whale has all the characteristics of animals—developed nervous system, sense organs, locomotion, adaptation for securing, ingesting and digesting food etc. (iii) Correct, because the horns are formed over a bony core on the frontal bone of the skull of a cow. (iv) Incorrect, because the bee's humming sound is produced by the rapid movement of its wings. (v) Incorrect, because it is gold-coloured varnish of lac dissolved in alcohol. Lac is a sticky resinous product, secreted by the tiny lac insect.

Q. Give the meaning of the following :—

(i) Thermal station (ii) Nuclear reactor (iii) Transistor
(iv) Superphosphate (v) Milky Way. (I.E. and S.S., 1970)

Ans. (i) A process in which electricity is produced by thermal action or by the heat process. (ii) An assembly in which a nuclear fission chain reaction is maintained and controlled for the production of nuclear energy, radioactive isotopes or artificial elements. (iii) It is a device generally used in radios or other electronic apparatus to serve as a voltage or current amplifier and which has replaced, for all practical purposes, the vacuum tube. (iv) Artificial fertilizer consisting mainly of calcium dihydrogen

phosphate. (v) Luminous band of stars encircling the heaven and considered to be the members of the Galaxy to which the Solar System belongs.

Q. Account for the following :—

(i) A parachute enables a person to descend in safety in case of an accident to aircraft. (ii) If a highly corked glass bottle full of water is left out of doors on a frosty night, it will burst. (iii) Green plants are active in modifying the composition of air. (iv) A certain amount of calcium should be a necessary component of our food. (v) It is dangerous to touch a live electric wire with bare feet and hands. (I.E. and S.S., 1970)

Ans. (i) An open parachute fills up with air and offers resistance to the gravitational pull of the earth, thereby helping a person to descend softly and in safety. (ii) Water, on freezing, expands in volume. The resulting expansion bursts the tightly corked bottle. (iii) Green plants utilize energy of sunlight to make carbohydrates (their food) from carbon dioxide and water, and in the process release oxygen thus ceaselessly replenishing the atmosphere with oxygen which the animal world is constantly consuming. (iv) Calcium is a constituent of most plant and animal matter. It is essential for bones and teeth in animals. It also functions in regulation of heart beat and in blood clotting. (v) A portion of our body, when in contact with a live electric wire, serves as a conductor and allows the electric current to pass to earth which gives a violent and, on occasions, fatal shock to the body.

Q. Answer the following :—

(i) Why does ice float on water? (ii) Why does a bad egg float on water? (iii) Why is rust heavier than iron? (iv) What is the velocity of light? (v) What is the normal temperature of the human body? (Cent. Info. Ser., 1970)

Ans. (i) Ice floats on water as it displaces water of greater weight than its own. In other words, its specific gravity is less than that of water. (ii) In a bad egg, putrefaction produces gases which reduce the specific gravity of the egg to a level less than that of water. Such an egg, therefore, floats on water. (iii) Rust is hydrated oxide of iron which is formed when the latter is exposed to moisture and air. It is, therefore, heavier than the pure iron. (iv) 1,86,000 miles per second. (v) 98.4° F.

Q. What do the following subjects deal with?—

(i) Sericulture (ii) Cytogenetics (iii) Ornithology (iv) Morphology (v) Palaeontology.

(Indian Forest Service, 1970)

Ans. (i) and (iii) See under *Scientific Names of Subjects*. (ii) Study of the protoplasmic nature of reproductive cells. (iv) Study of the form of animals and plants. (v) Study of the fossils and their relationship to the evolution of the Earth's crust and life upon Earth.

Q. Write explanatory notes on the following :—

(i) Nuclear reactor (ii) Quantum theory (iii) Silicones (iv) Mach number (v) Molecular biology. (Engg. Ser., 1970)

Ans. (i) An assembly in which a nuclear fission chain reaction is maintained and controlled for the production of nuclear energy, radioactive isotopes or artificial elements. (ii) Enunciated by Planck, it relates to introduction into physics of the concept of the discontinuity of energy. The system of quantum mechanics evolved from this theory during the first half of the twentieth century. (iii) Polymeric compounds that are used as lubricants, for water-repellent finishes, high-temperature resisting resins and lacquers. (iv) The ratio of the speed of a fluid or body to the local speed of sound. The speed of a fluid or body is therefore said to be supersonic if its Mach number is greater than unity. (v) The study of the structure of the molecules which are of importance in biology.

Q. Explain why a thermos flask keeps hot things hot and cold things cold. (I.N. July, 1970)

Ans. (a) See page 362

Q. Give reasons for the following:—

(i) Water pipes are apt to burst in extremely cold weather. (ii) Food can be cooked more quickly in a pressure cooker. (iii) Phosphorus is kept under water. (Stenographers, 1970)

Ans. (i) and (ii) See pages 387 and 385. (iii) Phosphorus is highly inflammable and ignites spontaneously in the air. It is, therefore, kept in water.

Q. From what sources or ingredients are the following obtained?

(i) Soap (ii) glass (iii) cement (iv) kerosene oil (v) steel. (Stenographers, 1970)

Ans. (i) caustic soda (potash) and fats (ii) silica, sodium carbonate and lime (iii) limestone and clay (iv) petroleum (v) iron and carbon.

Q. From what sources are the following obtained:—

(i) Aluminium (ii) Diesel oil (iii) nylon (iv) paper, and (v) turpentine oil. (Clks. Gde., 1970)

Ans. (i) Bauxite and cryolite (ii) Petroleum (iii) Coal, air and water (iv) Wood pulp (v) Resin of pine trees.

Q. Fill in the blanks:—

(i) The lightest gases are hydrogen and ———. (ii) Helium, neon, argon and krypton belong to the family of ——— gases. (iii) Fluorine, chlorine, iodine and bromine are all ———. (iv) Graphite and diamond are ——— forms of carbon. (v) Copper, silver and gold belong to the group of ——— metals. (vi) Sodium bisulphate and sodium bicarbonate are examples of ——— salts. (I.M.A., May, 1970)

Ans. (i) helium (ii) inert (iii) elements (iv) allotropic (v) malleable (vi) soluble.

Q. (a) Give the chemical name and formula of the following:—

(i) sal ammoniac (ii) cinnabar (iii) Epsom salt (iv) baking soda, and (v) calomel.

(b) What are the important ingredients of the following :—

(i) gunpowder (ii) Bordeaux mixture. (iii) baking powder (iv) Fehling's solution and (v) aqua regia. (*I.M.A., May, 1970*)

Ans. (a) (i) ammonium chloride, NH_4Cl . (ii) mercuric sulphide HgS . (iii) magnesium sulphate, $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$. (iv) sodium bicarbonate, NaHCO_3 . (v) mercurous chloride, Hg_2Cl_2 .

(b) (i) Potassium nitrate, charcoal and sulphur. (ii) Copper sulphate, lime, water. (iii) Sodium bicarbonate, tartaric acid. (iv) Copper sulphate, caustic soda, Rochelle salt (v) Nitric acid and hydrochloric acid.

Q. (a) Explain the following:—

(i) Allotropy (ii) Pasteurization (iii) Balanced diet (iv) Stratosphere (v) Weathering of rocks.

(b) Mention three ways by which an artificial magnet can be prepared. Why are permanent magnets made of steel?

(*N.D.A. May, 1970*)

Ans. (a) (i) See page 401. (ii) See page 342. (iii) See page 322. (iv) See page 155. (v) See page 125.

(b) Artificial magnets are prepared by (i) rubbing or stroking a bar of iron or steel with a strong magnet, (ii) laying the piece of metal parallel to a magnet and tapping it gently, and (iii) by winding around a soft iron bar or core a coil of insulated wire carrying an electric current. Permanent magnets are made of steel only because other metals lose their magnetism as soon as the magnet is removed or the current is cut off.

Q. For what purpose are the following instruments used?

(i) Seismograph (ii) chronometer (iii) lactometer (iv) stethoscope (v) Pyrometer.

(*N.D.A. May 1970*)

Ans. (i) to record the intensity of earthquakes (ii) to measure time while the [ship is on the sea (iii) to test the purity of milk (iv) to hear movement or condition of the heart or the internal organs. (v) to measure high temperatures.

Q. Explain what is meant by the following :

(i) Planetarium (ii) Radar (iii) Colour blindness (iv) Horse power (v) Hybrid. (*Assst. Gde., 1969*)

Ans. (i) A theatre-like chamber with hemispherical ceiling upon which celestial phenomena are reproduced by optical projection. The movements of lights reproduce panorama of sky. (ii) See page 399 (iii) A visual condition in which all spectral lights between green and red seem alike, for example, red is confused with green, yellow with green and red with orange. (iv) See page 359. (v) An animal or plant produced by crossing two different species or varieties.

Q. Complete the following sentences, filling in the gaps :—

(i) ——— is the instrument which measures the purity of milk. (ii) The largest delta in the world is ———. (iii) The total number of animals depicted on the National Emblem of India is

———. (iv) Crescograph was invented by ———. (v) The distance between the rails in broad gauge in India is ———. (vi) Lead pencils are made of ———. (vii) —— is caused by an imbalance of sugar. (viii) The animal that hides itself in sand when attacked is———. (ix) The science which deals with life or with the possibilities of life existing beyond the earth is called ———. (x) The hardest mineral is ———.

(Asstt. Gde., 1969)

Ans. (i) Lactometer (ii) Sunderbans (iii) five (iv) J.C. Bose (v) 5 ft. 6 in. (vi) graphite (vii) diabetes (viii) ostrich (ix) exobiology (x) diamond.

Q. What is hardness of water ? Distinguish between temporary and permanent hardness of water. Explain how each type of hardness can be removed, giving chemical reactions.

(I.N. Dec., 1969)

Ans. It is the presence of calcium, magnesium and iron compounds dissolved in the water. Such a water does not form an immediate lather with soap. Removal of these salts from solution renders the water soft. Hardness is divided into two types : 1. *Temporary* hardness, due to bicarbonates of metals. This is removed by boiling, the soluble bicarbonates being decomposed into the insoluble carbonates, carbon dioxide and water. 2. *Permanent* hardness is due to the sulphates of the metals. This is removed by the addition of washing-soda, *sodium carbonate*, which precipitates the insoluble carbonates. With the use of *zeolites*, all kinds of hardness may be removed.

Q. What is the function of the following :—

(i) Thermostat (ii) Seismograph (iii) Carburettor (iv) Haemoglobin (v) Plasma.

(Engg. Ser., 1969)

Ans. (i) It is an instrument for maintaining a constant temperature. (ii) Instrument for recording earthquake shocks. (iii) Device in the internal-combustion petrol engine for mixing air with petrol vapour preliminary to explosion. (iv) Red colouring matter present in the red blood cells. (v) Described as the fourth state of matter, it is very hot ionized gas in which controlled thermonuclear reaction experiments are carried out.

Q. (a) Answer the following (not more than one sentence each) :—

(i) Why is it easier to roll a barrel than to pull it along the road ? (ii) How many tonnes make one ton ? (iii) At what temperature are readings in both the Centigrade and Fahrenheit thermometers exactly the same ? (iv) What is the meaning of one horsepower ? (v) How do bats fly in the dark ?

(b) What is the working principle of transistor ?

(c) From what are the plastics made? Mention 4 main uses of plastics.

(I.A.S., 1969)

Ans. (a) (i) Rolling produces less friction (resistance to relative motion) than pulling (ii) 1·01604 tonnes (iii) -40° (iv) It is the British unit of power and is equal to work done at the rate of 550

foot pounds per second. (v) By means of SONAR (sound navigation and ranging), the bats, though blind, come to know of the objects or obstructions in their way which they avoid.

(b) It is an electronic amplifying device which performs the amplification function by controlling the flow of electrons within specially treated solid materials called semi-conductors. A semi conductor derives a greater amount of power than is expended in controlling it. As a result, weak control signals are amplified through successive stages to produce useful output. Transistors have, therefore, considerably lower power requirements and they have, in some cases, completely replaced the vacuum tube.

(c) Plastics are those materials which are stable in normal use but can be shaped or moulded by heat, pressure or both at some stage of their manufacture. They are made from cellulose and nylon. They are used in the manufacture of toys, radio and television cabinets, housewares and clothing.

Q. (a) Explain the following (about 25 words each) :—

(i) Lightning conductor (ii) hydro-electric power (iii) radio-activity (iv) refraction and (v) radiation (heat).

(b) Are the following statements true or false ?

(i) Water is cooled if kept in earthen pots in summer. (ii) A solar eclipse can occur only on a new moon day. (iii) Cream is heavier than skimmed milk. (iv) One blanket of double thickness is warmer than two of single thickness. (v) A plane approaching at a speed of 1,000 m.p.h. is not heard. (I.F.S. 1969)

Ans. (a) (i) See under *Electricity*. (ii) It is the electrical energy obtained with the instrumentality of water power i.e. the water power is used to drive a dynamo which generates electrical energy. (iii) See under *Scientific Terms*. (iv) See under *Light*. (v) See under *Heat*.

(b) (i) true (ii) true (iii) false (iv) false (v) true.

Q. (a) What are the main constituents of water and table salt?

(b) Answer the following questions (4 to 5 lines each):

(i) Why does an object weigh little less at the Equator than at the poles. (ii) Why does grass gather more dew at night than stones and bricks ? (iii) Why are white clothes more comfortable in summer than dark coloured-ones ? (iv) What is chlorophyll ? Why are mornings and evenings less warm than noon ?

(Stenographers, 1969)

Ans. (a) Water consists of two molecules of hydrogen and one of oxygen— H_2O . Table salt consists chiefly of sodium chloride.

(b) (i) The extent of gravitational pull of earth on an object is the weight of that object. An object at Equator is farther from the Earth's centre of gravity than at the poles and is, therefore, subject to lesser gravitational pull. Less the pull, less the weight of an object. (ii) Formation of dew is caused by air being below the saturation point. As the grass radiates heat better it gets cooled quicker than the stone and bricks, with the result that it gathers more dew than the latter. (iii) White clothes are good reflectors and bad absorbers of heat. Reverse is the case with dark coloured

ones' Thus one who wears white clothes is subjected to a comparatively less amount of heat. Therefore, one feels more comfortable than if he were wearing dark coloured clothes. (iv) See under *Scientific Terms*. (v) In the mornings and evenings, the sun rays fall in a slanting manner covering more area than at noon when they fall perpendicularly and cover less area.

Q. (a) Define the following :—

(i) Acceleration (ii) force (iii) specific gravity (iv) thermal capacity, and (v) principal focus of a lens. (S.C.R.A., 1969)

(b) What is the chief metal present in the following :—

(i) Cinnabar (ii) galena (iii) sylvine, and (iv) haematite.

Ans. (a) (i) to (iii) See pages 356-358 (iv) It is the heat capacity or the quantity of heat required to raise the temperature of a body 1°C . (v) It is the point of convergence or divergence of a beam of light on passing through a lens.

(b) (i) mercury (ii) lead (iii) potassium, and (iv) iron.

Q. (a) Distinguish between Centigrade and Fahrenheit (b) How do you see your image in a mirror ? (Cent. Info. Ser., 1969)

Ans. (a) Centigrade is $\frac{1}{100}$ and Fahrenheit is $\frac{1}{180}$ of the

difference between the temperature of melting ice and that of water boiling under standard atmospheric pressure. (b) When we are in front of a mirror, the rays of our image strike the mirror and are reflected enabling us to see ourselves.

Q. Answer the following :—

(i) At what temperature is the reading in a Centigrade thermometer the same as that in a Fahrenheit thermometer ? (ii) How do trees affect the climate of a place ? (iii) Why are places at a great height very hot in sunshine but bitterly cold in shade ? (iv) Why is a rainbow seen generally after rainfall ? (v) What is the gravitational pull of the moon as compared to that of the earth ?

(Geologist, 1969).

Ans. (i) -40° . (ii) Trees absorb much of and radiate more quickly the heat of the sun and help keep their surroundings cool. They also hasten the process of precipitation resulting in rainfall. (iii) See page 386 (iv) After the rainfall, the drops of water suspended in the air serve as a kind of prism to the sun rays which, by reflection and refraction, break into the seven colours of the spectrum. (v) It is one-sixth that of earth.

Q. Give reasons for the following :—

(i) The weight of a man at the surface of the moon will be only about one-sixth of his weight on the earth. (ii) It is advisable to work electric appliances when they are earthed suitably. (iii) Marble and chalk are said to be chemically identical. (iv) Bleaching powder is used as disinfectant. (C'ks. Gde., 1969)

Ans. (i) The force of attraction of a body on a given mass is the weight of that mass. Since moon's attraction is one-sixth of that of earth, a man on moon will have one-sixth of his weight on earth. (ii) Because any electrical leakage will not harm as the current leaked would pass into the earth. (iii) Both marble and chalk

are the form of natural calcium carbonate. Under conditions of heat and pressure, chalk turns into marble. (iv) Bleaching powder is the chloride of lime. It acts as an oxidizing agent and alters the composition of harmful organic matter rendering it harmless.

Q. What is the chief metal present in each of the following ?

(i) Bauxite (ii) rock-salt, and (iii) haematite. (*I.M.A., Apr., 1969*)

Ans. (i) Aluminium (ii) sodium and (iii) iron.

Q. Fill in each of the blanks with a single word :—

(i) Insulin is used in the treatment of—-. (ii) Mica is a non-conductor of heat and—-. (iii) Fish use—-for respiration. (iv) Dry—-is solid carbon dioxide. (v) Sandalwood oil is manufactured in—-State. (*N.D.A., May, 1969*)

Ans. (i) Diabetes (ii) electricity (iii) gills (iv) ice (v) Mysore.

Q. Fill in each of the blanks with a single word :—

(i) The cave temples of—-contain the world famous frescoes. (ii) Electric current is measured in—-(iii) John Dalton's —- theory is based upon certain fundamental postulates. (iv) Graphite is an allotropic form of —-. (v) A group of stars is called —-. (vi) The pyramids are situated in—-. (vii) —-is added to the soil to make it fertile. (viii) Marigold is a yellow coloured—-. (ix) Madame Curie became famous for her discovery of —-. (x) Scurvy is due to the deficiency of —-in the body. (*N. D. A. May, 1969*)

Ans. (i) Ajanta (ii) amperes (iii) Atomic (iv) carbon (v) constellation (vi) Egypt (UAR) (vii) manure (viii) flower (ix) radium (x) vitamin C.

MECHANICS

Matter and its Characteristics

Anything that occupies space, has weight and mass and which we perceive through our senses—touch, sight, hearing, smell and taste—is called matter. Thus the various objects which constitute our external world including our bodies are matter. Matter exists in three states namely, solid, liquid and gaseous. Stone, water and air are all matters but their physical states are different. Their chief controlling conditions are temperature and pressure. With variation in temperature and pressure matter changes its physical state. Most substances are solid at ordinary temperatures but, when heated sufficiently, can be converted to liquid and gaseous states.

Matter is composed of many minute particles, called molecules, not visible even with a high power microscope. The molecules are separated by spaces (called intermolecular spaces) and are also in constant motion. The physical state of a substance determines the relative distances between adjacent molecules. In solids the molecules are nearer together while in liquids and gases they are very widely separated. Thus in solids, the molecules are rigid—not free to move about in various directions—while liquids and gases allow free motion.

A molecule is the smallest particle of matter into which substance can be divided without changing properties. Molecules are made up of atoms either of same kind or of two or more kinds. The atom consists of a positively charged central core called the

nucleus (wherein resides all the mass of atom) and surrounded by one or more negatively charged electrons. The chemical behaviour of an atom is determined by its number of planetary electrons, characterised by the *atomic number*.

Mass. It is the quantity of matter in body without regard to volume or pull of gravity. It represents resistance of the body to acceleration or deceleration, also called inertia. Force must be used to overcome this resistance.

Weight. The force of attraction of the earth on a given mass is the weight of that mass.

Motion. It is the change of position of a body relative to the position of other objects. It is a fundamental condition of matter as the smallest particles, atoms as well as molecules, are in a state of constant movement. Motion and rest are relative, not absolute. For example, a person sitting in a car is at rest so far as the car is concerned but is in motion relative to the road and the other surrounding objects.

Newton's Laws of Motion. To explain the nature of motion, Newton framed three fundamental laws on which classical dynamics is based. They are as follows :—

1. Every body continues in its state of rest or uniform motion in a straight line except in so far as it is compelled by external forces to change that state.
2. Rate of change of momentum is proportional to the applied force, and takes place in the direction in which the force acts.
3. To every action there is an equal and opposite reaction.

Speed. It is the rate of change of position and is given by the ratio of the distance covered to the time taken by a moving body to cover that distance.

Velocity. Velocity is the rate of motion in a specified direction. The difference between speed and velocity is that while speed possesses only magnitude, velocity possesses magnitude as well as direction.

Acceleration. It is the rate of increase of velocity. It is measured as a change of velocity per unit time.

Deceleration or Retardation. It is the rate of decrease of velocity.

Force. Force is the external agency, capable of altering the state of rest or motion in a body in a straight line. It is measured in dynes or poundal or Newton.

Relative Velocity. If two bodies are moving in the same direction at different velocities, the difference between the two velocities is called the *relative velocity*.

Friction. Friction is resistance to motion when two bodies in contact are moved over one another. It may be static which is the frictional resistance of a body at rest or kinetic when the body has been set in motion. The amount of friction in each case depends largely upon the nature of the surfaces in contact, the shape of such surfaces and the weight of such objects.

Friction may be of two kinds *e.g. rolling friction or sliding friction*. The former occurs when a body rolls over hard and smooth surface. The friction in this case is greatly reduced. The latter occurs when a body, instead of rolling over, slides. In this case, the friction is enormous and rapidity of motion experiences a great hindrance. Lubricants, use of either spherical or circular surfaces and ball bearings remove the hindrance in the way of free motion. Yet without friction life would be impossible. The actual friction between the rails and the wheels gives motion to the train; while walking, friction between our feet and the ground is a necessary condition of forward motion. Friction is used to stop cars, trains and other vehicles in motion. In short, friction is a necessary evil.

Momentum. Momentum is the quantity of motion in a moving body. The amount of momentum depends upon the amount of matter or mass of the object and its velocity. Thus momentum is equal to mass multiplied by velocity ($m \times v$).

Density. It is the mass per unit volume of a substance. It is expressed in such units as grams per cc (gm/ccs) or lb. per cu. ft. (lb/ft³) or kg/m³. Specific gravity of a solid or liquid is density compared with that of water. The density of water is one gram per cc and therefore in C.G.S. system of units density is numerically equal to *specific gravity*. Density of gas is compared with hydrogen or air.

Specific Gravity. It expresses the ratio of the density or weight of a unit volume of substance to that of water or other standard substance. In simple words, the weight of any substance or the force of gravity upon it is directly proportional to its relative density. Specific gravity is determined in several ways; by one method a solid is weighed first in the air, then in water; the weight in air is divided by the loss of weight in water, the quotient being the specific gravity.

A piece of iron, for example, does not sink through an ordinary solid material for the reason that the particles of solid material do not make way for the iron piece to immerse but the same piece does sink in air and fluids whose particles are capable of moving out of the way to help the iron piece sink. Evidently, the factor that determines whether an object sinks or floats in a liquid or air is the weight of a definite volume of the object compared with the weight of an equal volume of the fluid or gas. In other words, iron sinks in fluids, because its *relative density* is greater than that of water. The specific gravity of a substance equals to :

$$\frac{\text{weight of a definite volume of substance}}{\text{weight of equal volume of water}}$$

Thus it may be concluded that any object having a specific gravity greater than that of water would sink in it, but the one having a specific gravity less than that of water would float in it. The ship, therefore, floats because its specific gravity as a whole is much less than the water. In other words, the volume of water it displaces by immersion is weightier than the ship itself.

Similarly ice which is less heavy as compared to the same volume of water floats in water. The human body has a specific gravity slightly greater than that of water but when the movements of the limbs in swimming generate a sufficient upward pushing force, this is brought down to unity *i.e.* it equals that of water, with the result that the body is prevented from sinking. Alternatively, if the human body is attached to a buoy making the combined gravity equal to the gravity of water, it will float.

Submarine. A submarine is a kind of ship having a variable and controlled specific gravity. It has tanks which, when filled up with water, help the vessel sink. On the other hand, when the water is expelled from the tanks by compressed air, the ship rises to the surface. Thus the submarine can be submerged in water or brought on the surface when already submerged by varying its specific gravity.

FORCE, ENERGY AND WORK

Force. Force may be defined as any "push" or "pull" acting on a body or as that effort acting to change its state of motion or state of rest. Thus force must be used to : 1. Disturb the object from a state of rest or steady motion ; 2. Increase its rate of motion ; 3. Overcome friction and make it move at the same rate ; 4. Alter the direction of its movement and 5. Stop its motion.

According to a law, formulated by Newton, force equals the mass multiplied by acceleration.

Centrifugal Force. It is the force that helps an object to fly away from the centre at tangent from its path. This force must be balanced, if equilibrium is to be maintained, by another force, called the *Centripetal Force*, a force acting in the opposite direction and towards the centre, thus holding the body in its regular path. Therefore, for every force there is an equal and opposite force. Centrifugal force is employed in cream separators, drying machines and concentrators in mining.

Energy. Energy means capacity for doing work. It has various forms such as potential, kinetic, electrical, heat, chemical, nuclear and radiant energy. They are interconvertible by suitable means, the interconversion taking place in the presence of matter. Radiant energy can, however, exist without the presence of matter.

Potential Energy. It is the energy which a body possesses by virtue of its position, *e.g.*, coiled spring or a car at the top of a hill possesses potential energy. *Kinetic Energy* is the energy which a body possesses by virtue of its motion. Anything that is capable of performing work is regarded as a form of energy which can also be transformed into other kinds of energy. For example, the coal burns with the help of oxygen of the air but at the same time develops heat, another kind of energy. The heat turns water into steam, which in turn expands and exerts a pressure. This pressure causes the piston (in an engine) to move and develop kinetic energy that forces a wheel to rotate. The wheel, let us assume, is connected with the armature of a dynamo which moves and the electricity is generated. The electricity thus produced may

be distributed to far off places and made useful for running factories and tramcars, lighting houses and streets, making people cooler in summer and warmer in winter and performing numerous other jobs.

Work. Work is an action of some kind or force upon some object in which friction or other resistance is overcome. It is thus the product of motion and force and is expressed in terms of distance and force. The various units of work are : erg, gram-centimetre, newton-metre or joule, foot-poundal (ft.-lb.) or foot-pound (ft.-lb.).

Erg. It is a unit of work and energy in centimetre-gram-second (C.G.S.) system. It is the work done by a force of one *dynes* acting through a distance of one centimetre.

Joule. It is the work done when a force of one newton moves a body through a distance of one metre. It is equal to 10 million ergs.

Dyne. It is the unit of force in centimetre-gram-second system, producing an acceleration in a one-gram mass of one centimetre per second for each second the force acts.

Horse Power. Power is the rate at which work is done. Horse power is the unit of work, employed to estimate the power of an engine. A British unit of power, it is the work done at the rate of 550 foot-pounds per second equivalent in electrical units to 746 watts, or the force required to raise a weight of 33,000 lb. through one foot in one minute. It was originated by James Watt.

Lever. It is a simple mechanism, consisting of a long rod and pivoting point called *fulcrum* about which the rod turns. There are three classes of levers: in the first, the fulcrum is between the weight and power; in the second, weight lies between the other two; in the third, the power is between the weight and fulcrum. Lever mechanism is extremely useful and is capable of doing heavy duty for man with little effort. If it is required to raise the heavy weight, the distance from the fulcrum to the weight must be much less than that from the fulcrum to the man's hand. Thus it has given us mechanical advantage to make use of distance, and the greater the ratio of the distance through which a man's hand moves to that through which the weight moves, the greater the mechanical advantage obtained.

Surface Tension. The free surface of a liquid is under a state of tension, causing a tendency for the portions of the surface to separate from each other. Molecules at surface tend to be drawn towards the centre by other molecules. The surface then acts like a very thin stretched membrane. Surface tension exists in any boundary surface of a liquid. Surface tension, in causing the water to assume the least surface possible, is thus responsible for the spherical form of small drops. This is amply illustrated by the water slowly dropping from a tap.

Capillarity. The process of a liquid creeping upwards in a narrow tube is called *capillarity* and the narrow tube is called a *capillary tube*. Oil ascends the wick of a lamp or a blotting paper absorbs ink or melted wax rises in the wick of a candle by this process.

GRAVITY AND THE LAW OF GRAVITATION

Gravity. Gravity is the pulling force that the earth exerts on all other material objects. This force is the cause of a body's having weight, and it is considered to act upon the whole body at a definite point, called the centre of gravity, within the body. The force of gravity is subject to slight variations in different places. That is why the weight of a body varies at different places on the surface of earth.

Law of Gravitation. The law states that all bodies in the universe exert a mutual attraction (or pull) on each other. Propounded by Newton, the law further states that every particle in the universe attracts every other particle with a force which is directly proportional to the product of the masses of the particles and inversely proportional to the square of the distance between them. Gravitation accounts for the orbital movements of the planets round the sun and the movements of satellites round the planets.

Equilibrium. Equilibrium is that state in which forces acting upon a body are such that they balance one another, giving no resultant at any time. If a heavy body rests upon the ground, its weight and normal reaction of the ground are exactly equal and opposite. If a body, after being moved, returns to its position, it is in stable equilibrium. On the other hand, if a body, on slight displacement, moves further away from its original position, it is said to be in *unstable equilibrium*. The equilibrium is said to be neutral when, in the case of a ball, the centre of gravity remains unaffected when it moves to and fro.

Principle of Archimedes. Archimedes, the Greek mathematician, established the principle that a body, when weighed in a fluid, loses as much of its weight as is equal to the weight of the fluid displaced. As discussed earlier, a body floats in the water only when its weight equals the weight of an equal volume of water.

HEAT

Heat is a form of energy. Energy, as we have discussed earlier, is the capacity of doing work, and heat does work when it transforms water into steam which moves the engine. It is the most widely used form of energy and the various machines which are in use at present are not possible without using the instrumentality of heat. Without this we cannot cook our meals, dry our clothes, keep ourselves warm and alive.

Effects of Heat. Certain changes occur when we add or take away heat from a body. The following changes occur :—

1. *Change of Temperature.* A body would continue to be more and more hot when heated and more cool if heat is reduced or removed. In other words, the temperature rises when heat is supplied and it decreases when heat is removed.
2. *Change of State.* Solids under high temperature may be transformed into liquids, and liquids into a gaseous state.
3. *Change in Size.* Matter expands on being heated and contracts when cooled.

4. *Quickening of Chemical Action.* Certain chemical changes are brought about only when the object (solid) is heated.
5. *Change of Physical Properties.* With the rise in temperature, physical properties like rigidity, hardness and elasticity undergo a change.

Temperature. It is a measure of the kinetic energy possessed by the molecules of a body. As water flows from a higher level to a lower one, similarly heat flows from higher temperatures to lower temperatures. The total quantity of heat in a body depends upon the temperature, the mass and the nature of the specific heat of the body.

$$(Q = m \times s \times t)$$

Transmission of Heat

When and where possible, heat passes from one body at higher temperature to another at a lower temperature. It travels in three ways, namely by (i) *Conduction* (ii) *Convection*, and (iii) *Radiation*.

Conduction. It is the process of heat transfer in which heat flows from the hotter parts of a substance to its colder parts without any visible movement of the particles taking place. It is done by the interaction of atoms or molecules possessing greater kinetic energy with those possessing less.

Illustration. If a kettle containing water is placed on say a gas burner, the heat warms the outer surface of the kettle. Every part of the metallic portion then transmits heat very quickly to the inner surface which, in turn, passes it on to the water. When heat is transmitted through a solid body in this manner, this process is termed as conduction.

Convection. It is the process of heat transfer in which heat spreads in a body by the actual movement of its particles. The particles near the source of heat get hotter, expand and move upwards giving their place to colder ones.

Illustration. (i) In our earlier example, the water near the bottom of the kettle gets heated first and the heated particles of water, being less dense than the cooler particles move upwards through the water, taking their heat along. In this manner, a circulation of heated particles is set up. The heat transferred from one place to another in this way is termed to be transmitted by *Convection*. (ii) The ventilation of a room is nothing but establishment of convection currents between the outside air and the room air. The room air gets hotter, expands, rises and escapes through the ventilators whereas the fresh cool air from outside takes its place entering through an inlet near the bottom of the room. (iii) The ocean currents, the winds and storms, land and sea breezes and air conditioning are based on the principle of convection currents.

Radiation. It is the process of heat transfer in which heat travels from one place to another in straight lines without heating the medium through which it passes. The radiant energy travels at a terrific speed of 1,86,000 miles per second--the speed of light. It is the radiant energy that warms the earth. The radiant heat travels in a vacuum as well as in air and it always travels in a straight line.

Illustration. In the above example of the kettle, the heat of the gas burner travels to the kettle through the space. But this is not convection since the air itself is not appreciably warmed by the radiant heat which passes through it. Similarly, the sun warms a person, but not the air around him.

• **Thermos Bottle (Vacuum Flask).** It is an apparatus that almost completely prevents the escape of heat through conduction, convection and radiation. This apparatus comprises an inner vessel closely surrounded by another outer vessel, the space between the two vessels being a vacuum. The outer surface of the inner wall and the inner surface of the outer wall are silvered. A hot liquid placed in the inner vessel keeps its heat because the vacuum prevents any loss of heat due to conduction or convection. The small quantity of heat which does escape due to radiation is minimised due to the reflecting surface being silvered. Thus the hot liquid placed in the flask remains hot for a pretty long time.

Illustrations. (i) Dull and rough surfaces absorb heat and also give out heat more quickly than the bright and smooth surfaces. (ii) Light-coloured and white clothes are preferred in summer as they keep the body cool whereas black and dark-coloured clothes are more suitable in winter because they absorb all the heat falling on them and keep the wearer warm. (iii) The roofs and walls of the houses are white-washed to keep them cooler in summer and warmer in winter. (iv) The helmets worn by the fire brigade men are highly polished to reflect heat away. Moreover, the polished surfaces are bad absorbers of heat and prevent the firemen from being affected by the excessive heat.

EVAPORATION AND CONDENSATION

Evaporation. The conversion of liquid into vapours is called evaporation. The amount of heat required to evaporate a unit of liquid is called 'latent heat of evaporation'. Evaporation depends upon the following factors:—

1. *Nature of the Liquid.* Liquids like the methylated spirit evaporate very rapidly. They are also called volatile. Others like glycerine may not evaporate at all.
2. *Temperature.* Higher the temperature, the greater the evaporation.
3. *Pressure.* The lower the pressure exerted on the liquid, the quicker is the evaporation.
4. *Dryness or otherwise of air.* If the air is dry, the evaporation is greater and more rapid. Damp air hardly makes evaporation possible.
5. *Extent of the exposed surface.* Larger the area of exposed surface of the liquid, greater the evaporation.

Evaporation and cooling. (i) In summer, the water is kept in porous earthen pots. The water which oozes out of the pores of the pot evaporates taking the necessary latent heat from the remaining water which is thereby cooled. (ii) When water is sprinkled on the roads in summer it immediately evaporates taking the heat of evaporation from the road and the surrounding air. A cooling effect is thus generated. (iii) Manufacture of ice is possible only

by the cooling effect of evaporation. (iv) The human body is also cooled in the similar way. When we perspire due to heat and sit under a fan or a shady tree, the air causes evaporation and consumes much of our body heat. The result is the cooling effect.

Condensation. As explained earlier, heat causes evaporation and water is turned into vapour. If these vapours are cooled, they come back to the liquid form. This conversion of vapours into liquid is called condensation and it takes place when the pressure of the vapour becomes equal to the maximum vapour pressure of the liquid at the temperature. Condensation helps formation of dew, rain, snow, mist and fog.

Latent Heat of Fusion. If dry ice is placed in a vessel, it melts slowly. This means that heat had been steadily supplied to the ice the whole time, though the temperature is maintained at 0°C . Thus while the heat does not make itself apparent by a rise in temperature, some energy has been expended in changing the ice into liquid. This heat is called the latent heat. For example, 1 gm of ice at 0°C requires 80 calories to convert it into water at 0°C .

Air-Conditioning. It is the process whereby the humidity, temperature and the circulation of air in a private or public house or a factory are systematically regulated. (I.A.S. 1966)

LIGHT

It is the name given to the agency by means of which a viewed object influences the observer's eye. Light itself is not visible; it is the object illumined by light that is seen. Light is a form of energy having the properties of vibration or wave motion and traversing space. It travels always in a straight line and at a terrific speed—1,86,000 miles per second. The light of the sun takes about $8\frac{1}{2}$ minutes to reach the earth.

The sun, stars, fires, candle flames or burning lamps emit their own light but certain cold objects like moon, earth, houses, wood and the numerous objects we come into contact with in daily life merely reflect light received from other sources of light. The former are called luminous bodies and the latter non-luminous bodies. Of the latter, those objects which allow the light to pass through them readily so that other objects can be seen through them are called *transparent* bodies and include glass, air and water. On the other hand, objects like metals, wood etc. which do not allow light to pass through them are called *opaque* bodies. There are yet other objects which allow light to penetrate them but not sufficient enough for the objects beyond them to be seen clearly. They are called *translucent* substances.

Reflection of Light. A part of light that falls on an object is absorbed and the rest is reflected. The term reflection as applied in optics is the change of direction when a ray of light strikes a surface and is thrown back or reflected in a new path. The degree of reflection depends on the nature of the object or surface. A piece of white paper or a smooth, polished surface reflects most of the light striking it, but a black, dull surface absorbs almost the whole of the incident light. Our ability to read something repre-

sented by writing on a paper is a good example. The black letters on a sheet of paper absorb almost whole of light but the white surroundings reflect most of the light. This contrast of black and white makes reading possible.

A ray of light striking a mirror at a certain point is said to be *incident* at that point and is called the *incident ray*. It is reflected at an angle equal to that at which it strikes a reflecting surface. This is called the *reflected ray*. The angle of incidence and the angle of reflection are always equal.

Images are of two kinds, real or virtual. In a *real image*, the rays of light after reflection (or refraction) actually pass through a point. Such an image, e.g., that of a camera can be received on a screen. But in the case of *virtual image*, the rays of light after reflection (or refraction) do not actually (though they appear to) pass through a point and cannot, therefore, be directed on a screen. The images formed by the plane-mirror are virtual. They are : (i) erect (ii) of the same size as the object (iii) appear as far behind the mirror as the object appears in front of it, and (iv) laterally inverted meaning thereby that the right hand side of the object appears as left hand side of the image.

Refraction of Light. Light travels slower in a dense medium than in a rare medium. Water and glass, for example, are denser than air. When a ray of light leaves a rarer medium and strikes the surface of a denser medium at an angle other than the right angle, it bends or deviates from its straight path. This deviation or alteration is called *Refraction*. The extent of bending depends on the relative optical densities or refractive indices of the two media ; the greater the difference in the refractive indices of the two media, the greater is the refractive effect.

The ray striking the surface is named as the *incident ray* and that which passes through the denser medium as *refracted ray*. The *refracted ray* always bends towards the *normal* in the denser medium, but when it comes out of the denser medium, it bends away from the *normal*. The latter ray is called the *emergent ray*.

Illustrations (i) When stick is placed in water, a denser medium than air, it appears bent due to refraction. For the same reason, a pond does not look as deep as it actually is. When the light rays strike its bottom, they are refracted in water and the bottom appears to be nearer the surface of the water than it actually is. (ii) The sun rises about two minutes earlier than it is really seen and sets two minutes later on account of refraction. (iii) The stars seen in the sky look more distant than their actual position because their rays of light, when they pass through the denser air near the earth, are inwardly bent because of refraction.

MAGNETISM AND ELECTRICITY

Magnetism. Magnetism is the property of attracting iron and a few other metals. It was first observed in a form of magnetite called loadstone which is also called a natural magnet. The name magnet is derived from Magnesia in Asia Minor, where about 1,000 B.C., people were aware of a certain rusty-brown or

black mineral compound called loadstone which had the property of attracting pieces of iron towards it.

The earth possesses a *magnetic field*, the intensity of which varies with time and locality. The field is similar to that which would be produced by a powerful magnet situated at the centre of the earth and pointing approximately North and South. The magnetic force of attraction appears to be more concentrated at these poles or positions near the ends. In brief, a magnet has the following properties:—

1. It attracts small pieces of iron.
2. It points towards north and south, the two ends being called North and South Poles.
3. Unlike Poles attract and like Poles repel each other. The force of attraction or repulsion between two poles varies inversely as the square of the distance between them and directly as their pole strengths.
4. A magnet can make other piece of iron a magnet. When a magnet is brought near the piece of soft iron (though not touching it), it induces magnetism in the piece of iron, developing an opposite pole at the near end and similar pole at the farthest end.
5. A magnet attracts iron and iron attracts a magnet. Thus the attraction between a magnet and magnetic substance is mutual.

The Magnetic Field. A magnetic field is a region around any magnet (no matter whether it is earth or a small compass) in which the influence of the magnet can be experienced by other magnetic bodies like pieces of iron or steel. A magnetic field may exist at a point as a result of the presence of either a permanent magnet or of a circuit carrying an electric current in the neighbourhood of the point.

Artificial Magnet. Commonly bar-shaped or horse shoe shaped, the artificial magnets are manufactured in various forms and shapes, and are usually made of special steel alloys. Such magnets are permanent as well as temporary. Temporary magnets, generally made of soft iron, can be easily magnetized and demagnetized. Permanent magnets are of steel or steel alloys and cannot be magnetized easily. Magnets are made by rubbing with a natural or artificial magnet and by passing an electric current through a coil. A magnet can be demagnetized (or made to lose its magnetic properties) by (i) hammering a magnet (ii) by magnetizing in the opposite direction, and (iii) by heating it strongly.

Electromagnets are made by an electric current. An electromagnet has the distinguishing characteristics as follows:— 1. Its strength can be increased or decreased at will by strengthening or reducing the current flowing through it. 2. An electromagnet functions as a magnet when electric current flows through it, unlike an ordinary magnet which is almost of permanent nature. The amount of iron or material of the core decides the strength of the magnet. However, if a piece of steel (in place of iron) is used, it gets permanently magnetized and does not lose its magnetism even after the current is stopped.

Electricity. Certain phenomena related to frictional electricity have been noticed from early times. About 600 B.C.,

Thales, a Greek philosopher, recorded that a hard yellow substance (amber) had the properties of attracting light bodies. Dr. Gilbert, in the 16th century, proved that some other bodies also possessed this property and to these he gave the name of *electrics* after the Greek word *elektron* which meant amber. This gave a new impetus to the study of electricity leading to important researches and resulting in the production of frictional machines which gave out a spark several inches in length.

The *Leyden Jar*, an electrical condenser, was invented in 1746 by Cunaeus at the Leiden University, giving an understanding of the principles of induction. Franklin, a few years later, identified the electric spark with the lightning. In 1800, Volta discovered a new source of electricity, later developed as primary battery or cell. Later, the studies and researches of Davy, Faraday, Oersted, Ohm, Hertz, Johnstone and Thomson resulted in the enunciation of the principles governing electrolysis, electro-magnetism, electrical resistance, working of electrical forces, atomic nature of electricity and the elaboration of the electron theory.

As the most flexible form of energy which can be easily produced, conveniently transmitted, electricity is being put to numerous uses. It serves man in a greater variety of ways than any other form of energy. It is used as a source of power, as a source of heat and light and has been of help in the treatment of various diseases. It carries messages across land and sea by wires and through space. It transmits music and pictures (radio and television) from one place to the other thousands of miles apart in no time. It has helped to split the atom and evolve the atomic weapons. It has enabled man to reach the outer space and to explore the universe beyond.

Static Electricity. Static electricity is concerned with nature, strength and effect of charge on bodies. As explained earlier, hundreds of years B.C. it was known that a piece of amber rubbed with wool possessed the power of attracting other substances. Electricity was, therefore, termed as a power that attracted other small bodies.

When we stroke a cat's back in dry frosty weather or comb our hair on a hot dry evening, small sparks are visible, producing crackling sound. The animal's, as well as our, hair stand up straight in an endeavour to get away from the others near it. Electricity, weak no doubt, is said to have been produced then. Our hand is in direct contact with electricity which passes through our body to the earth, of course without our notice due to the feebleness of the current. The electricity produced on glass, rubbed by silk and the one produced on sealing wax rubbed by flannel do not behave in exactly the same manner. Franklin demonstrated that electricity was of two distinct kinds, namely *positive* and *negative*. Electric charges of the same kind repel each other (similar to the repulsion between magnetic poles of the same kind) and the dissimilar ones exert a mutual force of attraction.

Because of the rubbing process, electricity of the above kind was called *frictional electricity*. Since this kind of electricity does not flow as a current, it was named as *static electricity*.

Dynamic or Current Electricity. Since electricity flows along wires at a great speed and can be transferred from one body to another, it is called *current electricity*. Atom, the smallest conceivable particle of matter is composed of a nucleus, consisting of one or more *protons* and *neutrons* surrounded by a space in which one or more *electrons* or particles of negative electricity revolve at great speed. An atom with its nucleus and electrons may be likened to an exceedingly small solar system, corresponding to the sun and the planets revolving about it. The atom of hydrogen is considered one of the simplest, consisting of a single proton forming the nucleus around which a single electron is revolving. Atoms of other forms of matter are more complicated.

In the process of electrification some of the electrons are torn away from atoms so that the remainder, being deficient in negative electricity, appears to be charged positively and, in its state to capture electrons it exerts an attracting force for negative electricity. The escaped electrons give a charge of so-called negative electricity to the body to which they become attached. Thus a current of electricity consists of an extremely rapid motion of free negative electrons along a wire or other conductor.

Good Conductors. These are the substances which allow electric current to pass through them. There are also *super conductors* with zero magnetic induction, their properties being (i) perfect diamagnetism, and (ii) infinite conductivity. Those substances which resist the flow of the electric current through them are called *Insulators* or *bad conductors*.

Lightning. The disturbances in the atmosphere, especially the rapid movement of air columns due to sudden changes in temperature, are responsible for producing good amount of electricity (static) which collects in the clouds. When a cloud charged with positive or negative electricity comes near another cloud or objects like buildings, trees etc., etc. on earth, the charged cloud induces an opposite charge in the second cloud or in the objects on earth which get charged oppositely by induction. The air between the two clouds or the charged cloud and the earth acts as an insulator ; but when this resistance is broken, the discharge results in a flash of lightning, with a loud thundering noise. Air offers a very large resistance to the passage of electricity and it requires millions of volts of it to break the air resistance and cause a flash of lightning.

A **Lightning Conductor** is a mechanism by which buildings can be saved from damage caused by lightning. It consists of a metallic rod with pointed ends at the top and connected with a metallic plate buried in the earth down below. It is placed on a high chimney or on the top of the building. The conductor allows the charge to pass harmlessly into the earth without in anyway damaging the building.

The Heating Effect of Electricity. Electric current is easily convertible to heat. Conductors of certain metals (generally alloys) become red hot when electric current at the right pressure passes through them. Electric cookers, kettles, saucepans, and other

electrical appliances meant for domestic use as heaters consist of wires embedded in oxide of magnesium and completely covered by an outer casing.

The Light Effect of Electricity. Electricity is turned into light in an electric lamp. The ordinary glass bulb consists of a tungsten wire, called the filament, sealed into the glass covering and filled with a mixture of nitrogen and argon to prevent the burning of filament. The electric current makes the filament extremely hot and it consequently gives out yellow white light.

The Magnetic Effect of Electricity. Electricity is solely responsible for the formation of artificial magnets, called the electromagnets. An electromagnet is a temporary magnet, formed by winding a coil of wire round a piece of soft iron. When the electric current passes through the wire, the iron bar becomes a magnet but it remains a magnet only so long as current flows. The magnetic strength of the iron bar depends on the number of turns in the coil and the current strength. Such magnets are used in telephone, telegraph, electric bell, electric generator and motor.

SOUND

The term sound is applied to the sensation produced upon the organ of hearing caused by the incidence of vibrations consisting of alternate compression and rarefaction of the air. Sound wave is longitudinal since vibration is along the direction of wave. Wave-length depends on velocity in a given medium at a given temperature and on frequency of vibration of body causing sound. The vibration of sound can pass through many solid, liquid and gaseous substances but will not pass through vacuum. The sound travels at a speed of 1100 ft. per second (about 750 miles per hour) in the air at ordinary temperatures. Its speed in solids and liquids is much higher.

The pitch or frequency of the sound is dependent on wave-length of the vibration. Whether the sound is soft or loud depends on the amplitude or height of the wave. Sounds of frequencies of about 20-20,000 vibrations per second are audible to the human ear. Sounds having frequencies below 16 cycles per second (cps) are called *infrasonics*, about 20,000 cps *ultrasonics* and above 1,000 million cps *hypersonics*. A sense of feeling starts at 16 cps but actual sense of hearing is produced at 20 cps. Sound waves can be reflected, refracted or absorbed.

Uses of Ultrasonics. Development in the field of ultrasonic techniques during the two world wars led to the submarine detecting. Ultrasonics are now extensively used to explore the sea beyond the directly-observable range. This is called *echosounding*. The depth of sea at a place can be measured by noting the lapse of time between transmission and reception of an acoustic impulse, transmitted downward into the sea. On this is based the sophisticated modern application called SONAR—sound navigation and ranging.

CHEMISTRY

Chemical Change. Chemical change means the formation of a new substance and is also accompanied by alteration in weight. Once

a substance undergoes chemical change, it is permanent and its former state cannot be retrieved. When oxygen combines with iron to form rust, it is a chemical change. Similarly the burnt up candle becomes part and parcel of the atmosphere and its properties as candle cannot be restored.

Physical Change. Physical change is the change or alteration of only physical properties of a substance, not accompanied by a chemical change. Formation of ice or steam are but physical alteration of water. Under proper conditions, they can be changed from their gaseous and solid states back to water. Lead and iron, though molten, are still lead and iron.

Element. An element is a simple substance, which cannot be chemically split into two or more unlike substances. For example, we cannot reduce a piece of iron into anything else than iron. There are 105* stable elements so far known to us and some of them are rare, their properties little understood as yet. Element may be gas, liquid, solid, metals or non-metals. Oxygen, for example, is the most abundant element.

The latest researches have succeeded in bringing about transmutation of elements during atomic fission, fusion and radioactivity and can be caused by bombardment of elements in the cyclotron or in a nuclear reactor.

Compound. A compound is a substance, produced by the chemical combination in definite proportions (by weight) of two or more elements. It has properties distinct from those of its constituents. It can be decomposed by heat and chemical reaction. A compound is composed of identical molecules, but made up of atoms of two or more different elements. Thus H_2O symbolising the compound water, means that each molecule of water contains two atoms of hydrogen and one atom of oxygen.

Air. The air or the gaseous envelope which surrounds the earth is a mixture of several gases. It is neither an element nor a compound. The composition of air slightly differs at different places but its average composition is :

Oxygen : 20.95%, Nitrogen : 78.09%, Carbon dioxide : 0.04%, other gases : 0.92%, water vapour: Variable. Gas is breathed by men and other animals in order to maintain life. It helps in burning. If a flame is shut up in a jar, it will burn for a little while till it consumes the oxygen in its entirety and will then go out. Oxygen is, therefore, the essential element for the process of burning. Nitrogen, the colourless, odourless and tasteless gaseous element, is relatively inactive.

Oxygen. It is the colourless, odourless and tasteless gaseous element having the symbol O and atomic weight 16. It is the most abundant of all the elements in the earth's crust including the seas and the atmosphere. It constitutes nearly one-fifth of the atmosphere. It is essential for most forms of life and its compounds (oxides) are very widely distributed. The pure element

*The 104th element, named *Kurchatovium*, with mass number as 260 and the 105th (still un-named) have been synthesized by the Russian scientists.

is made by the fractional distillation of liquid air. It is used in welding and metal cutting.

Properties. It is heavier than air, slightly soluble in water and is a poor conductor. It exists in a free state in the atmosphere, supports combustion but is itself incombustible. Active and important chemically, it is involved in oxidation, combustion, respiration, rusting and corrosion. It is of great commercial importance and is being used in medical practice and also in the production of high temperatures. It can be prepared on a large scale by liquefaction of air and the electrolysis of water. In the laboratory, it can be produced by heating potassium chlorate and manganese dioxide together.

Uses. It is of great commercial importance and is also being used in medical practice for artificial respiration. Due to burning and respiration, the air is continuously losing its oxygen element but the process of carbon assimilation in plants makes it possible to lose large quantities of oxygen to the air and thus replenish the loss of oxygen in the atmosphere.

Hydrogen. It is colourless, inodorous, tasteless and the lightest known gaseous element. It occurs in nature combined with oxygen, forming water and uncombined in small quantities in volcanic gases. Its symbol is H, atomic weight 1.008 and boiling point 252°C . It is made commercially by the electrolytic decomposition of water or by other methods. It can also be obtained from acids or alkalis. In the laboratory, it is prepared by the action of dilute sulphuric acid on commercial zinc.

Properties. Hydrogen is colourless, inodorous, tasteless and inflammable, burning with a non-luminous flame. It is the lightest gaseous substance known. Its molecule is diatomic (containing two atoms written as H_2). It occurs as water (H_2O), in organic compounds and in all living things.

Uses. It is used in the oxy-hydrogen burner, as a reducing agent, in the manufacture of synthetic ammonia, for hydrogenation of oils, and for inflating airship. *Deuterium* and *Tritium*, the two of the three known isotopes of hydrogen, are of importance in nuclear physics.

Nitrogen. Gaseous element having the symbol N and atomic weight 14.0067. It forms four-fifths by volume of the atmosphere and occurs in nature in the form of nitrates and also as a constituent of many animal and vegetable compounds. It is prepared commercially from ammonia or by distillation methods from the air. It can be prepared in the laboratory by heating ammonium nitrate. Many compounds can be made from atmospheric nitrogen.

Properties. It is a colourless, tasteless and odourless element which does not burn nor supports combustion. It is relatively inactive but combines with some active metals and oxygen. It is a constituent of ammonia, nitric acid, amino acids and many explosives. It is present in all living matter and its compounds are most essential to life.

Uses. Nitrogen is used in electric-light bulbs, thermometers, and certain industrial processes. Its compounds are used as fertilisers and in the manufacture of nitric acid.

Nitrogen Cycle. It is the circulation of nitrogen compounds in nature through the various organisms to which nitrogen is essential. Nitrogen compounds are stored in plants which are used by animals for food. Nitrogen enters into other compounds in the body of animals. Animal waste matter with high nitrogen content passes into soil or sea. Certain bacteria convert these new compounds into forms which can be utilised by plants and then transformed into compounds usable by animals again. The cycle is thus completed.

Carbon Dioxide. It is carbonic acid gas, occurring in atmosphere and having the symbol CO_2 . It results from burning of carbon, hydrocarbons and from decomposition of carbonate. It is also the result of respiration.

Properties. It is a colourless gas with a very faint tingling smell and taste. It is heavier than air and neither burns nor supports combustion. It is soluble in water and can be liquefied under pressure. *Dry Ice* is solid CO_2 . When allowed to accumulate as in coal pits and disused cellars, it can cause death because human beings cannot live on air with more than 15 to 20 per cent of carbon dioxide. A smaller quantity of it can cause discomfort.

Uses. It is absorbed by the plants (photosynthesis) and is used as a refrigerant in solid form (as dry ice) for the preservation of food etc. As it is heavier than air and is incombustible, it is used in fire extinguishers.

Water. One of the most essentials of life, water covers about 70 per cent of earth's surface. It is constantly wearing down land and carrying and depositing it elsewhere. Rain, humidity and also the presence of large body of water are important factors in climate. Water forms greater part of animal and plant protoplasm, is present in plant sap and animal blood and is essential to photosynthesis.

Properties. When pure, it is odourless, tasteless, transparent liquid, colourless in small amounts but showing bluish tinge in large quantities. When cooled to 0°C , it changes to colourless, crystalline solid called ice. It expands in freezing (causing bursting of pipes). When heated to boiling point, it vaporises to steam and expands about 1700 times. It also evaporates at ordinary temperatures. It is a compound of hydrogen (two atoms) and oxygen (one atom), its symbol being H_2O . Pure water is a poor conductor of electricity and heat. Water : one of the best solvents. Temporary hardness of water occurs when bicarbonates of calcium or magnesium are present; a permanent one occurs when sulphates or chlorides of these are there. Temporary hardness can be eliminated by boiling or by adding lime; permanent hardness can be eliminated by adding such substances as sodium carbonate or sodium hydroxide.

Uses. Water is put to numerous uses, hard to count. * It promotes the growth of vegetation and animals; as water vapour, it is an important constituent of atmosphere and drops in the form of rain. When frozen, it exerts considerable pressure and disintegrates rocks and in its other shapes, the rain, river and sea, erodes land surfaces. It is harnessed for the generation of power and as steam is the basis of steam engine. It is standard for measurements of specific gravity and specific heat. These uses are only to count the few.

Carbon. It is the abundant, non-metallic element, scientifically denoted as C, found in all organic matter. All life on earth is based on the chemistry of carbon, hydrogen and oxygen. Its atomic weight is 12.001. It occurs in nature as carbonate, in air as carbon dioxide, in crystalline form as the diamond and graphite and in amorphous form as charcoal. Our chief sources of power, light and heat are derived from the compounds or forms of carbon known as coal, petroleum and alcohol. Carbon forms hydrocarbon and carbhydrate compounds. Oxidation or burning of carbon in food provides the chemical energy for biological processes. Perfect oxidation results in carbon dioxide and incomplete oxidation in carbon monoxide. Steel is a compound of iron and carbon.

Graphite. It is the natural allotropic form of carbon. It occurs as a soft, black mineral, greasy to touch with a metallic lustre and containing iron oxide and other impurities. It is also known as blacklead or plumbago and is used as a lubricant and for making pencils and crucibles. It is a good conductor of heat and electricity.

Diamond. The purest, crystalline form of carbon. It is the hardest substance known. When pure, it is colourless. It is sometimes coloured by traces of impurities. It has a very high refractive index and dispersive power. It is used for cutting tools and drills and also as a gem. Most of the world's gem diamond comes from South Africa. It is also produced synthetically for use in industry.

Coal. Material, occurring in large underground deposits, consisting of carbon and various other carbon compounds. It represents the remains of ancient land vegetation which has undergone chemical change - reducing the oxygen and increasing the carbon content up to 75 or 90 per cent. There are various forms of coal, differing in their carbon content, moisture and volatile substances. They include peat, lignite, and anthracite. Coal tar is obtained by heating coal in the absence of air. It is used in the manufacture of chemicals, dyes and explosives.

Charcoal. It is the general name for numerous varieties of carbon, usually impure. It is the carbonaceous residue obtained by the smothered combustion (in the absence of air) of vegetable, animal or combustible mineral substances. Wood charcoal is an impure, amorphous form of carbon and is a porous solid which, when burned as fuel, is flameless and smokeless. Charcoal is used in making gunpowder, in sugar refining, in purification of water and air and in gas masks.

CHEMICAL NAMES

| <i>Substance</i> | <i>Chemical Name</i> | <i>Composition</i> |
|------------------------|------------------------|--------------------------------------|
| Baking soda | Sodium-bicarbonate | Sodium, hydrogen, carbon and oxygen. |
| Blue vitriol | Copper sulphate | Copper, sulphur and oxygen. |
| Candy fluid | Potassium permanganate | Potassium, manganese and oxygen. |
| Caustic potash | Potassium hydroxide | Potassium, hydrogen and oxygen. |
| Caustic lotion | Silver nitrate | Silver, nitrogen and oxygen. |
| Caustic soda | Sodium hydroxide | Sodium, hydrogen and oxygen. |
| Chile saltpetre | Sodium nitrate | Sodium, nitrogen and oxygen. |
| Common salt | Sodium chloride | Sodium and chlorine. |
| Epsom | Magnesium sulphate | Magnesium, sulphur and oxygen. |
| Galena | Lead sulphide | Lead and sulphur. |
| Glauber's salt | Sodium sulphate | Sodium, sulphur and oxygen. |
| Green vitriol | Iron sulphate | Iron, sulphur and oxygen. |
| Gypsum | Calcium sulphate | Calcium, sulphur and oxygen. |
| Iron pyrites | Iron sulphate | Iron and sulphur. |
| Kansī (an alloy) | Bronze | Copper, zinc and tin. |
| Litharge | Lead monoxide | Lead and oxygen. |
| Nitre (<i>Shora</i>) | Potassium nitrate | Potassium, nitrogen and oxygen. |
| Pital (an alloy) | Brass | Copper and zinc. |
| Washing soda | Sodium carbonate | Sodium, carbon and oxygen. |
| White vitriol | Zinc sulphate | Zinc, sulphur and oxygen. |

Lampblack. It is the impure form of soot, constituting amorphous carbon and hydrocarbons obtained from burning of certain substances like oil, resin and other organic material. Lampblack is used for the manufacture of inks and black paint. It is also a colouring agent.

Acid. It is a substance that liberates hydrogen ions in solution or the one containing hydrogen which may be replaced by a metal to form a salt or the one having a tendency to lose protons. Most of the acids are corrosive, have a sour taste and turn litmus red. All acids contain hydrogen and most of them contain oxygen too. The ones without oxygen are distinguished by *hydro*, e.g., hydrochloric acid and those with a high proportion of oxygen by *per* such as perchloric acid.

Acid can conduct electricity. Most acids are solid, only a few of them are liquids and very few are gases. It is the opposite of alkali.

Alkalis. These are the groups of compounds, oxides or carbonates which are soluble in water and neutralize the acids forming salts. They have a caustic taste and turn red litmus blue. The common alkalis are ammonia, caustic soda, caustic potash, sodium and potassium carbonates. They are of great commercial importance and are manufactured on a very large scale.

Base. It is a substance that reacts with an acid to form water and a salt only. It has a negative charge, tastes bitter, feels soapy soft and turns red litmus blue, such as calcium hydroxide or magnesium hydroxide.

Salt. Chemical compound which is formed when the hydrogen of an acid has been replaced by a metal. Salts are named according to the acid and the metal from which the salt is derived. Thus copper-sulphate is a salt derived from copper and sulphuric acid.

IMPORTANT SCIENTIFIC LAWS AND DEFINITIONS

Atomic Weight. It is the ratio of weight of an atom of an element to the weight of an atom of a standard element. Hydrogen was at one time used as standard; later oxygen (the weight of an atom of oxygen taken as 16) served as the standard. However, by an international agreement of 1961, Carbon 12 has been adopted as the standard. The atomic weight is determined by quantitative analysis.

Boyle's Law. Temperature remaining constant, the volume of a given quantity of any gas is inversely proportional to the pressure upon the gas.

Charles' Law (The Gas Laws). It states that at constant pressure all gases expand by $\frac{1}{273}$ of their volume at 0°C for a rise in temperature of 1°C . This means that the volume of a given mass of gas at constant pressure is directly proportional to the absolute temperature.

Dulong and Petit's Law. For a solid element, the product of the atomic weight and the specific heat (i.e., the atomic heat) is a constant, approximately equal to 6.4 calories per gram-atom.

Equivalent Weight (Chemical Equivalents). It is the combining proportions of substances by weight, relative to hydrogen taken as a standard. Equivalent of an element is the number of grams of that element which will combine with or replace 1 gram of hydrogen or 8 grams of oxygen. Equivalent weight, of an acid is the weight of the acid containing unit weight of replaceable acidic hydrogen. Similarly, equivalent weight of a base is the weight of the base required to neutralize the equivalent weight of an acid.

Gay-Lussac's Law of Gaseous Combination (Avogadro's Law). The law states that when gases combine, they do so in a simple ratio by volume to each other, and to the gaseous product, measured under the same conditions of temperature and pressure. As explained by the *Avogadro's Law*, equal volumes of all gases contain equal numbers of molecules under the same conditions of temperature and pressure.

Law of Constant Composition. A definite chemical compound always contains the same elements chemically combined in the same proportions by weight.

Laws of Electrolysis, Faraday's. The Law states that : 1. The chemical action of a current of electricity is proportional to the quantity of electricity which passes. 2. The weights of substances liberated or deposited by the same quantity of electricity are proportional to their chemical equivalents.

Law of Indestructibility of Matters. (consequent upon chemical change). Change may be effected in a substance involving an alteration in its chemical composition, but the matter as such is never destroyed, meaning thereby that the total mass of the system remains unchanged.

Law of Mass Action. The velocity of a chemical change is proportional to the active masses (or molecular concentrations) of the reacting substances.

Law of Multiple Proportion. When two elements unite in more than one proportion, for a fixed weight of one element there is always a simple relationship with the weight of the other element present.

Law of Partial Pressures, Dalton's. The law states that the total pressure exerted by a mixture of two or more gases or vapours is equal to the sum of the pressures that each component would exert if it were present alone and occupied the same volume as the whole mixture.

Law of Reciprocal Proportions (Law of Combining Weights or Law of Equivalents). It states that the elements combine in the ratio of their combining weights or chemical equivalents, or in some simple multiple or submultiple of that ratio.

Le Chatelier Principle. If a system in equilibrium is subjected to a stress, the system tends to react in such a way as to oppose the effect of the stress.

Mendelism (Mendel's Laws). Based on the researches carried out by G.J. Mendel, an Austrian scientist, the laws state the principle of heredity. According to this principle, certain characters, are, inherited by hybrids which he termed dominant, others are not shown

by the hybrids but do occur in their offsprings and are known as recessive. Thus each reproductive cell receives only one pair of alternative factors existing in other body cells.

Molecular Weight. It is the sum of the atomic weights of all the atoms which comprise a molecule. Molecular weight of a substance would therefore be the sum total of the weight of all the atoms of that substance.

Ohm's Law. The ratio of the potential difference between the ends of a conductor and the current flowing in the conductor is constant. This ratio is termed as the resistance of the conductor. For a potential difference of E volts and a current of I amperes, the resistance R in *ohms* is equal to $\frac{E}{I}$.

Periodic Law. Enunciated by Mendeleef (Mendeleev) in 1869, the Law states that "the properties of elements are in periodic dependence upon their atomic weights". In other words, there is a definite relationship in periodical occurrence of similar properties in certain elements when all these elements are arranged in the periodical table.

Solubility. The extent to which a solute (a substance which is dissolved in a solvent to form a solution) will dissolve in a solvent, usually expressed in grams per 100 gm. of solvent at a specified temperature.

Valency. It is the combining power of an atom and denotes the number of hydrogen atoms which an atom will combine with or replace. Atoms of different elements combine to form molecules of compounds according to their valencies. For example, the valency of oxygen in water, H_2O , is 2.

Valency Bond. It is the bond that holds atoms together in a molecule. An atom can satisfy two or three valency bonds of another atom, giving rise to a double or triple bond.

Valency, Electronic Theory of. The theory assumes that certain arrangements of outer electrons in atoms are stable and tend to be formed by the transfer or sharing of electrons between atoms. The chief types of linkage are :—

1. *Electrovalent bonds* formed by the transfer of electrons from one atom to another ; the atom which loses an electron becomes a positive ion, and the other a negative ion. This explains the behaviour of electrolytes.
2. *Covalent bonds* (or *Covalency*), the sharing of a pair of electrons, one being provided by each atom. If both electrons in a covalent bond are donated by the same atom, it is called a *coordinate* or *dative bond*.

Water of Crystallization. It means that there is a definite molecular proportion of water chemically combined with certain substances in the crystalline state. For example, the crystals of copper sulphate contain 5 molecules of water with every molecule of copper sulphate.

CHEMICAL SYMBOLS

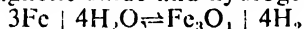
Hydrogen (H) ; Sodium (Na) ; Potassium (K) ; Silver (Ag) ; Mercury (Hg) ; Copper (Cu) ; Lead or Plumbum (Pb) ; Tin (Sn) ;

Iron (Fe) ; Zinc (Zn) ; Manganese (Mn) ; Magnesium (Mg) ; Arsenic (As) ; Gold (Au) ; Platinum (Pt) ; Silicon (Si) ; Chlorine, (Cl).

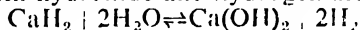
Q. What happens when :

(i) Steam is passed over red-hot iron. (ii) Water is treated with calcium hydride (iii) Potassium chlorate is heated. (iv) Potassium nitrate is heated. (v) Ammonia and air are passed over hot platinum. (vi) Water is treated with calcium phosphide. (vii) Water is treated with calcium carbide. (viii) Water is treated with calcium nitride. (ix) Calcium bi-carbonate is heated. (x) Sulphur dioxide is treated with hydrogen sulphide. (xi) Chlorine is treated with hydrogen sulphide. (xii) Hydrogen is treated with cupric oxide. (xiii) Stannous chloride is treated with mercuric chloride. (xiv) Carbon dioxide is passed in lime. (xv) Lead nitrate is heated. (xvi) Iodine reacts on sodium thiosulphate. (xvii) Chlorine reacts with lime. (xviii) Sulphuric acid acts on copper (xix) Nitrogen reacts with calcium carbide. (xx) Water acts on calcium cyanamide. (xxi) Sulphuric acid reacts on ammonia (xxii) Nitric oxide is passed through ferrous sulphate. (xxiii) Ammonium nitrite is heated. (xxiv) Ammonium nitrate is heated. (xxv) Ammonium dichromate is heated. (xxvi) Iodine reacts with nitric acid.

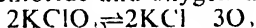
Ans. (i) Magnetic oxide and hydrogen are produced.



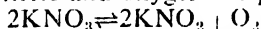
(ii) Calcium hydroxide and hydrogen are produced.



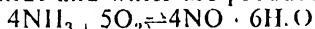
(iii) Potassium chloride and oxygen are produced.



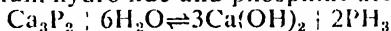
(iv) Potassium nitrite and oxygen are produced.



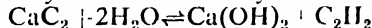
(v) Nitric oxide and water are produced.



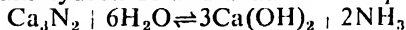
(vi) Calcium hydroxide and phosphine are produced.



(vii) Calcium hydroxide and acetylene are produced.



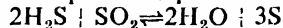
(viii) Calcium hydroxide and ammonia are produced.



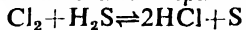
(ix) Calcium carbonate, water and carbon dioxide are produced.



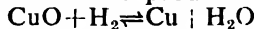
(x) Water and sulphur are produced.



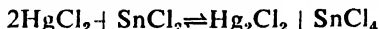
(xi) Hydrochloric acid and sulphur are produced.



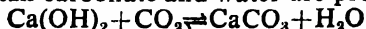
(xii) Copper and water are produced.



(xiii) Mercurous chloride and stannic chloride are produced.



(xiv) Calcium carbonate and water are produced.



- (xv) Lead monoxide, nitrogen peroxide and oxygen are produced.

$$2\text{Pb}(\text{NO}_3)_2 \rightleftharpoons 2\text{PbO} + 4\text{NO}_2 + \text{O}_2$$
- (xvi) Sodium tetrathionate and sodium iodide are produced.

$$\text{I}_2 + 2\text{Na}_2\text{S}_2\text{O}_3 \rightleftharpoons \text{Na}_2\text{S}_4\text{O}_6 + 2\text{NaI}$$
- (xvii) Bleaching powder is produced.

$$\text{Cl}_2 + \text{Ca}(\text{OH})_2 \rightleftharpoons \text{CaOCl}_2 + \text{H}_2\text{O}$$
- (xviii) Copper sulphate, sulphur dioxide and water are produced.

$$\text{Cu} + 2\text{H}_2\text{SO}_4 \rightleftharpoons \text{CuSO}_4 + \text{SO}_2 + 2\text{H}_2\text{O}$$
- (xix) Calcium cyanamide and graphite are produced.

$$\text{CaC}_2 + \text{N}_2 \rightleftharpoons \text{CaNCN} + \text{C}$$
- (xx) Calcium carbonate and ammonia are produced.

$$\text{CaNCN} + 3\text{H}_2\text{O} \rightleftharpoons \text{CaCO}_3 + 2\text{NH}_3$$
- (xxi) Ammonium sulphate is produced.

$$\text{H}_2\text{SO}_4 + 2\text{NH}_3 \rightleftharpoons (\text{NH}_4)_2\text{SO}_4$$
- (xxii) Nitroferrous sulphate is produced.

$$\text{FeSO}_4 + \text{NO} \rightleftharpoons \text{FeSO}_4\text{NO}$$
- (xxiii) Nitrogen and water are produced.

$$\text{NH}_4\text{NO}_2 \rightleftharpoons \text{N}_2 + 2\text{H}_2\text{O}$$
- (xxiv) Nitrous oxide and water are produced.

$$\text{NH}_4\text{NO}_3 \rightleftharpoons \text{N}_2\text{O} + 2\text{H}_2\text{O}$$
- (xxv) Nitrogen, water and chromic oxide are produced.

$$(\text{NH}_4)_2\text{Cr}_2\text{O}_7 \rightleftharpoons \text{N}_2 + 4\text{H}_2\text{O} + \text{Cr}_2\text{O}_3$$
- (xxvi) Iodic acid is found by oxidation of iodine with nitric acid.

$$10\text{HNO}_3 + \text{I}_2 \rightarrow 10\text{NO}_2 + 4\text{H}_2\text{O} + 2\text{HIO}_3$$

PRINCIPLES OF SCIENTIFIC DEVICES

Aeroplane. It is a "heavier than air" flying machine, developing propulsive power and sustained by air action. Like the additional upthrust of the swimmer by the movements of his limbs, the aeroplane, pulled through the air by its propeller, causes the pressure on the wings to give a powerful upthrust, lifting and maintaining the machine in the air. The movable mechanism at the tail modifies the pressure and makes the machine to ascend, descend or turn sideways as the pilot wants.

Arc Lamp. It consists of a pair of carbon rods through which a high voltage current is passed. This produces a luminous glow or arc between the poles of the carbons. This brilliant white light was used for street lighting and also in optical lanterns.

Atomic Reactor. A device serving as a furnace for producing controlled release of atomic energy. Fissionable atoms of uranium and plutonium are used as nuclear fuel. The fission of these atoms causes a self-sustaining nuclear chain reaction resulting in the splitting of other atoms thereby producing tremendous energy.

Binocular. It is an optical device, composed of two telescopes which can be focussed simultaneously for vision with both eyes. In some binoculars, the tubes are foreshortened by fixing totally

reflecting prisms in the light paths with a view to enhancing the magnifying effect. The light passing through these prisms suffers total internal reflection and is considerably magnified in the process. (*I.A.S., 1966*)

Camera. A photographic camera is a light-tight box with convex lens in front and arrangement for holding a sensitive plate or film at the back. It has provision for varying the distance for focussing the image. When shutter is open, the film is exposed. A camera takes pictures by instantaneous or time exposure, in black and white or in natural colours.

Cinema (Cinematography). The art or process of photographing moving objects and projecting them upon a screen in a series of pictures in rapid sequence. This gives an appearance of movement of the object. This effect is due to persistence of vision. These images, which are photographs of objects at successive instance of motion, are projected so rapidly on the screen that the eye perceives them as in continuous motion.

(*I.S., 1959, 1966*)

Davy's Safety Lamp. It is the miners' safety lamp and was invented in 1815 by Sir Humphry Davy. In this lamp, the flame is surrounded by glass but above this is a space bounded all round by fine copper gauze. Inflammable gases which may be present in mine can pass through and burn inside the lamp but the flame cannot be communicated even in an atmosphere which contains coal-gas that is so explosive.

(*N.D.A., May, 1960*)

Diesel Engine. It is an internal combustion engine, invented by Rudolf Diesel, a German engineer. In this engine, air is admitted to the cylinder during the suction stroke. During the second stroke, this air is strongly compressed raising the temperature to about 1000° F. With the third stroke, oil is sprayed into the cylinder and the mixture exploded by its own high temperature. The fourth stroke forces the burnt gas out of the cylinder. The resultant detonation causes a downward movement of the piston. The cycle of events is repeated and the engine comes into motion.

(*S.C.R.A., 1960*)

Dynamo. It is a generator of electric current in which mechanical energy is converted into electrical energy. This is done by the influence of magnetic fields. A dynamo consists of field magnets and an armature. The armature is rotated in the field of powerful magnet. The turning coil cuts lines of force first in one direction then in another; so current flows first in one and then in another direction. This is called alternating current (A. C.). This current can be used for lighting purposes and for power.

(*S.C.R.A., 1960*)

Electric Bell. It consists of an electro-magnet of the horse-shoe pattern, and a flat piece of iron facing the poles of the electro-magnet. This piece of iron is connected to a rod and hammer which strikes the gong when the iron piece is pulled over towards the magnet directly, the moment the current commences to flow. To have the bell continuously ringing, an arrangement for stopping and starting the current in rapid succession has been provided. As

long as the push button of the bell is pressed, the mechanism automatically makes and breaks the circuit. The electro-magnet pulls and releases the hammer which strikes continuously against the gong causing the bell to ring.

Electric iron. It consists of a heating unit with a coil of nichrome placed between piece of mica which, being bad conductor of electricity, prevents the coil from touching the sides or the metallic body of the iron. When the electric current passes through the nichrome wire, it offers great resistance and thereby produces heat which it conducts to the metallic base through the mica pieces. It becomes very hot and is used for pressing clothes.

Electric Heater. All conductors offer resistance to the electric current passing through them. The electrical energy consumed in overcoming this resistance turns into heat. Especially the nichrome wire gets red-hot when electric current passes through it.

Gramophone. It is a device for recording and then reproducing sound or music. It has a disc on which the sound record is cut in the form of a spiral groove. This disc is mounted on a rotating spindle for reproduction of the recorded sound. The reproducer consists of a sensitive diaphragm and needle, attached to a moving tubular arm. The steel needle runs in the wavy groove, corresponding to the original sound vibrations that impressed their wave-forms upon the wax disc at the time the actual performance of speech or music was taking place. These movements are communicated to the sound box (diaphragm) which faithfully reproduces the original sounds. The sound box has now been replaced by an electromagnetic system of reproduction with valve amplification.

Heart Lung Machine. Recently invented by Dr. Dennis McIlrose, it is a device that replaces the real heart and lung-functioning of the patients and enables the surgeon to perform the operations on the defective lung and heart. (*I.A.S., 1963*)

Jet Engine. It is an engine which produces a great amount of gas and gives the apparatus to which it is attached a high propulsive power. Jet propulsion is the forward thrust, resulting from the rearward expulsion of a mass of gas under high pressure, generated by combustion in a jet engine. The apparatus works on Newton's third law of motion and obtains oxygen for combustion from the atmosphere.

Mariners' Compass. It is a magnetic device, used by the navigators to know the correct directions. It consists of a magnetized bar with a card, bearing the various directions, mounted above and firmly attached to it so that as the magnet moves in relation to the ship's course, the card moves with it. The box containing the compass is mounted in such a way as to let the compass remain in a horizontal position whichever way the ship may roll. It is in the earth's magnetic field and indicates North and South Poles. The North is indicated by a crown or the letter N, printed on the card exactly on the North Pole of the magnet.

Microphone. It is a device for converting the sound waves into electrical energy waves and is used to record, broadcast and intensify the sound. It is based on Faraday's electromagnetic induction principle.

Oil Engine (Internal Combustion Engine). It consists of, in addition to its outer structure, a piston, a cylinder, a crankshaft and a carburettor. Its function is as follows: Fuel (oil etc.) is fed from the storage tank by the pump to the carburettor, mixed with air. The mixture is then pushed to the cylinder for compression and ignition by an electric spark. The resultant combustion forces the piston to move downwards and transmit through connecting rod a rotary motion to the crankshaft. Thus it transforms heat energy into mechanical energy.

Periscope. It is an optical instrument used for viewing the objects which are so placed that the direct vision is obstructed. It is used in the submarines or in the trench warfare with a view to seeing or examining objects from a lower level. It consists of reflecting prisms and mirrors fixed in a vertical tube. The upper mirrors or prisms reflect an image to the lower mirrors and thence to the eye.

Radio Telephony. It is a device in which the sound is first converted into electrical impulses and then transmitted to distant places. At the receiving end, these electrical waves are received and converted again into sound waves. Radio telephony is the telephonic system without the wires.

Refrigerator. It is a device which performs the act of drawing heat from solids or liquids to lower their temperatures, generally for purposes of preservation. Based on the principle that heat is absorbed from the surrounding area when a solid is liquefied, the electric motor in a refrigerator is used to exert pressure on a refrigerant—ammonia—before it moves into the coils of the refrigeration compartment. Heat is drawn to the coils as ammonia changes to its gaseous form. The motor then acts to compress the gas issuing from the coils, rendering it liquid for its passage back into the coils.

Rocket. A projectile driven by reaction propulsion (Newton's Third Law of Motion) which contains its own propellants, it is independent of the earth's atmosphere both with respect to thrust and oxidant and provides the only known practicable means of propulsion in space. Multi-stage rockets have been built up of several separate sections—each stage being jettisoned when it has burnt out. With the crossing of every stage, the projectile becomes progressively lighter and higher velocities can be achieved with less thrust. Retro-rockets are used to bring the rockets back to earth. (I.A.S., 1965)

Tape Recorder. It is an implement which records sound and then reproduces it. It consists of three electromagnets—for washing the previous recordings, for recording new sounds and for reproduction of the recorded sound. The sound is recorded on plastic tapes, coated with ferro-material. The recorded sound is

then amplified and fed into the amplifier and passed on to the speaker which reproduces the original sound.

Telephone. It is an electrical instrument which transmits and reproduces sound at a distance. It consists of a diaphragm at each end with an electromagnet which converts into electrical impulses, the sound waves produced by a person speaking into the mouthpiece. These impulses, strengthened by the electric battery, produce similar vibrations in the magnetic field of the distant telephone with the result that the diaphragm at the other end reproduces exactly the same sound.

Television. It is the process of transmission by electrical means of image of events at the time they occur. The whole scene is broken up into a series of points of light with the help of a rotating disc, containing a large number of holes, which scan the different portions of the picture. In this way, the lights and shadows of the image are explored in their proper sequence and manner. The light passing through the apertures enters a photographic cell which translates the sequence of light values into a corresponding sequence of electrical values. These currents are then amplified and transmitted. At the receiving end, these currents are converted into light, giving a representation of the scene.

Teleprinter. A telegraphic transmitter that prints (types out) the messages that are being-typed at the distant end. As the person on the transmitting end presses the keys of a kind of a typewriter, the same messages are printed at the receiving end automatically and without any effort.

Telstar. It is a device, placed in space and used to transmit wireless and television broadcasts across the continents (*via space*). It is operated by a battery, continuously charged by the sun's rays. It picks up, amplifies and transmits the wireless broadcasts received from the earth. Launched by the U.S.A. in 1962, it has greatly helped transmission of messages, broadcasts and overseas communications to various countries.

Transistor. It is a device generally used in radios or other electronic apparatus to serve as a voltage or current amplifier and has replaced, for all practical purposes, the vacuum tube. Made of germanium or some other crystalline semiconducting material, it is generally preferred to the vacuum tube for its small size, less current consumption and longer service. It was invented in 1948 by William Shockley and others.

SOME IMPORTANT QUESTIONS RELATING TO SCIENTIFIC AND GEOGRAPHICAL PHENOMENA

Q. Why does the sky look blue ?

Ans. The gaseous envelope around the earth comprises air, dust particles and water vapour. The light of the sun, consisting of colours of the spectrum, is broken up and scattered by this atmosphere. Since the blue colour has shorter wavelength than

other colours like red and orange, it is, prominently scattered by the water vapour and the dust particles. Thus the sky appears as blue in colour.

Q. Why do stars twinkle ?

Ans. The atmosphere consists of layers of air of different temperature and density. The light travelling down from the stars, while passing through this atmosphere, is refracted in different ways and at different angles. Due to this resistance, the light occasionally passes through the layers. The occasional blockade and release of their passage due to the variation in temperature and density appear as twinkling.

Q. Why do we hear better in water than on land ?

(I.A.S., 1952)

Ans. Sound consists of waves of different frequencies produced in air. While travelling through air, these waves cannot travel long distances due to the resistance offered by the air and objects like hills, trees, houses, etc. On the other hand, the sound waves have a free passage in the water and are thus enabled to travel longer distances.

Q. Why does a bee hum?

Ans. The humming sound is caused by the extremely rapid movement of the bee's wings. For example, the honey-bee can move her tiny wings more than 400 times a second. The movement of the wings to and fro is so rapid that individual sounds made by the movement of wings are not heard and instead a continuous sound, called the humming, is heard.

Q. How can bats fly in the dark?

Ans. Bats do not have exceptionally sensitive eyes that can see through darkness but instead have remarkably sharp and sensitive hearing power. While flying, the bats continue to make sharp squeaks which the human ears cannot detect. These sounds are echoed by the objects like houses, trees and other phenomena. The echoing of sound helps them determine the obstacle in their way which they avoid.

(I.A.F., May, 1957)

Q. A hydrogen balloon rises. Why?

Ans. The hydrogen balloon rises in the air because its weight is less than the weight of air that it displaces.

Q. Why is a flash of lightning seen before the sound of thunder?

(I.R.S.E., 1967; I.A.S., 1961)

Ans. It is because of the difference of speeds at which they travel. Sound travels at about 740 miles per hour whereas light travels at a terrific speed of 186,000 miles per second.

Q. The flame of a burner is conical in shape. Why?

Ans. The condition of the mixture formation and gas flow determine the shape of the flame. When the fuel gas issues from the tube, the diffused air moves towards the centre of the gas stream and forms an envelope of explosive mixture around it. While going upwards, the core diminishes and totally disappears after some distance, thus forming the shape of a cone.

Q. How can a man skate ?

Ans. When pressure of the body is put on the edge of the skate, it melts a small amount of ice which prevents it from slipping and instead gives a push forward. The principle of equal and opposite reaction, offered by the hard ice surface helps skating on ice.

Q. Why does a blue object look blue?

Ans. It is because the particular object has absorbed all the other colours of the light except blue which it is reflecting.

Q. Why does an electric bulb make a bang when it is broken?

Ans. An electric bulb is provided with a partial vacuum. When the bulb is broken, the air rushes in to fill the vacuum which causes the bang.

Q. How does the soda straw work? (I.A.S., 1961)

Ans. When we draw at the straw, the air is sucked out, creating a low pressure inside the straw. The soda, therefore, rushes in and upwards to occupy the space vacated by the air.

Q. How does the pouring of kerosene oil on stagnant water help to eradicate malaria? (I.A.S., 1958)

Ans. The kerosene oil poured on a pool of water spreads and forms itself into a layer on the surface of water. This way, it prevents the mosquitoes from laying their eggs on water and breeding. The eggs already laid on water are also destroyed.

Q. Why do people prefer to use white clothes in summer ?

Ans. Deep colours are good absorbers of heat and bad reflectors. On the other hand, white clothes absorb much less heat and most of it is reflected away. Thus the white clothes give a comparatively cooler effect.

Q. How is it that light passing through a glass prism produces a coloured pattern on the wall? (S.C.R.A., 1967)

Ans. The seven colours of light refract in different paths and at varying angles. As they fall at different points on the wall, a coloured pattern is formed. Dispersion of light in a prism is due to the fact that the light-waves of different wavelengths are refracted or bent through different angles on passing through the prism, and are thus separated.

Q. What is a fuse? (I.T.I., 1966; I.A.F., May, 1957)

Ans. A fuse is a safety device in electric circuits and consists of a metallic wire with a low melting point. When electric current of high voltage passes through it, it melts and breaks the circuit, stopping flow of electricity and saving the main installations from a possible damage.

Q. Why does a person lean forward when climbing a hill?

Ans. While climbing, it is necessary to keep the equilibrium stable and to keep the line passing through the centre of gravity vertically downward within our feet. Bending forward makes these possible.

Q. How is the rainbow caused? (S.C.R.A., 1966)

Ans. It is the multi-coloured bow-like pattern, consisting of colours of the spectrum and caused by the reflection and refraction

of sunlight in the water drops suspended in the air. It generally occurs after the rain. Two rainbows are seen at a time, the inner one known as *primary* and the outer one as *secondary*. The former is produced by the single reflection of the sun rays with violet or blue border inside and red outside. The latter is the reflection of rays showing reversed colour pattern, i.e. red inside and violet outside.

Q. Cooking is ordinarily difficult on the mountains. Why?

Ans. Higher the altitude, more rarefied is the atmosphere. The pressure is very low. Consequently the boiling point is also lowered, which makes cooking comparatively difficult and longer lasting.

Q. Why is cooking quicker in pressure cooker? (I.M.A., 1967)

Ans. The mechanism of a pressure cooker is such as it helps to accumulate steam with the consequent rise in temperature and pressure which greatly helps in cooking quicker and better.

Q. Why does a ship made of steel float though a steel ball sinks? (I.A.S., 1961)

Ans. The ship floats on the surface of water as it displaces water of greater weight than its own. On the other hand, the weight of the water displaced by a ball is less than the weight of the ball. This makes the ball sink.

Q. Why does a thermos flask keep hot liquid hot and cold liquid cold?

Ans. A thermos flask is a double-walled apparatus with the outer surface of the inner wall and the inner surface of the outer wall silvered. A partial vacuum is also created between the two walls. This prevents the escape of heat through conduction, convection or radiation. Thus the heat or cold of the liquids put into the flask is maintained for a long time.

Q. Why does ice float on water and sink in alcohol?

Ans. It is because the specific gravity of ice is less than that of water but the same is more than that of alcohol.

Q. Why is mercury used in thermometer? (Asstt. Gde., 1967)

Ans. Mercury is the only metal which is liquid even at ordinary room temperature. It also uniformly expands when heated and does not wet the walls of thermometer. Its use in the thermometer has, therefore, been found ideal.

Q. How is nuclear energy released ?

Ans. Nuclear (or atomic) energy is produced by fission or by fusion of atomic nuclei. In either process, matter is converted into energy. A fissionable element is bombarded with neutrons. As a consequence, fissionable atom seizes a neutron, becomes unstable and splits, yielding two smaller atoms, more neutrons and a quantity of energy. The released neutrons split other atoms and so on. This is called self-sustaining nuclear chain reaction. The total mass produced is less than the original mass of fissionable atoms; the difference is to be accounted for as energy. This process is used in the atom bomb

as well as in nuclear reactor wherein energy appears as heat. The heat can be converted into usable power by conventional engines or turbines.

The fusion process is used in the hydrogen bomb. In one process, two deuterons collide to form a helium 3 nucleus, a neutron and a large quantity of energy. Atomic bomb (the fission process) is used as detonator to set off fusion reaction. The total mass of the two deuterons is greater than the total mass of the helium nucleus and the neutron. The difference is converted into energy.

Q. How does a submarine float and sink as desired?

(I.A.S., 1961)

Ans. A submarine is a vessel having a variable and controlled specific gravity. It has a number of tanks which are arranged fore, aft and amidships. By means of filling these tanks with water, the vessel can be made to sink when desired. On the water being expelled again by pumps, worked by compressed air, the vessel rises to the surface of water.

Q. Distinguish between a dynamo and an electric motor.

(I.A.S., 1962)

Ans. A dynamo is a device that converts mechanical energy into electrical energy. On the other hand, the electric motor converts the electric energy into mechanical energy.

Q. Why is compass used as an indicator of direction?

(S.C.R.A. 1960; I.A.S., 1961)

Ans. A magnetic compass consists of magnetised bar which moves in relation to the ship's course. The earth's north magnetic pole attracts the so-called north pole of a compass while the magnetic pole in the south of the earth attracts the so-called south pole of the compass. Thus the magnetic needle of the compass lies always in the North-South direction and gives sense of direction to the sailors on high seas.

Q. Differentiate between mass and weight? (I.A.S., 1962)

Ans. Mass is the quantity of matter in a body without regard to volume or pull of gravity. Weight, on the other hand, is the force of attraction of the earth on a given mass.

Q. How is it that places situated at high altitudes may be very hot in the sunshine but bitterly cold in shade?

Ans. Places situated at high altitudes have rarefied atmosphere which contains almost no dust particles that generally absorb the heat of the sun. When the sun shines, the rarefied atmosphere offers no resistance to it and the sun rays are felt to be very hot. On the other hand, rarefied atmosphere hardly absorbs any heat emitted by the sun with the result that it is very cold in the shade.

Q. Why are leaves green? Why does radio reception improve after sunset?

(Engg. Services, 1951)

Ans. The leaves are green because they absorb the six colours of light but reflect the seventh which is green. It is the chlorophyll, the green colouring matter, that gives the leaves their colour.

Electromagnetic waves (the radio waves) are considerably weakened by the rays of the sun. After sunset, the radio waves are stronger and give better reception in the receiving set.

Q. (a) Why does a straight stick look bent when partly immersed in water? (b) Why does water boil at a lower temperature on the hills than on the plains.

(U.P.S.C., Clks. Gde., 1967; J.S.W., July, 1951)

Ans. (a) It is due to the principle of refraction. Rays of light passing from one medium to the other are deflected from their straight course and appear bent up. Similarly, a stick partly immersed in water appears bent. (b) Pressure on the hills is low. Lower the pressure, lower the boiling point. This explains why water boils at low pressure in the hills.

Q. Why does a cheap clock lose time in summer ?

(J.S.W., 1952)

Ans. Regulation of time in a clock depends on the movement or oscillation of the pendulum. A cheap clock would have an ordinary pendulum which, under the influence of summer heat, expands thereby lengthening the course of oscillation. With the increase in time taken for oscillation, the clock lowers its speed and therefore loses time. Reverse is the case during winter.

Q. Thick glass tumblers often crack when very hot liquids are poured in them. Why ?

(I.A.S., 1956 ; I.R.S.E., 1967)

Ans. When very hot liquid is poured into a thick glass tumbler the inner surface of the glass suddenly expands due to the heat whereas the outer surface is still comparatively cold. The tumbler cracks by the resultant pressure and unequal expansion.

Q. How does an electric bulb emit light ?

Ans. The filament in the bulb consists of a tungsten wire of high resistance. When electric current passes through it, it gets red hot and emits light.

Q. What is a high blood pressure ?

(I.A.S., 1962)

Ans. It is the rise of pressure exerted by blood against the blood vessels.

Q. How does milk turn into curd ?

(I.A.S., 1962)

Ans. Curd is the solidified state of milk, resulting from enzyme action. Under a certain heat, large number of bacteria are produced which harden the milk in the shape of the curd.

Q. What is green manure?

(I.A.S., 1962)

Ans. Green manure is the manure consisting of the greenery which is ploughed back in the land to replenish the chemical properties of the soil, especially the nitrogenous compounds.

Q. Why water pipes burst when it is freezing temperature at Simla and Srinagar ?

(Asstt. Grade Exam. 1962)

Ans. On freezing, the water expands due to increase in volume. The pressure thus exerted is sufficient to burst the pipe.

Q. Water kept in an earthen pitcher is cooler than that kept in a metal container. Why ?

(Asstt. Grade Exam., 1967)

Ans. An earthen pitcher has tiny pores which absorb water. On contact with the wind, evaporation takes place and creates a cooling effect. The absence of pores in the metal container renders it incapable to effect evaporation. No cooling effect is produced in the second case,

Q. (a) Why are water pipes apt to burst in cold weather . (b) Which expands to the greatest when heated : solids, liquids or gases. (c) In what unit is quantity of heat measured? (A.F., 1954, 59)

Ans. (a) In cold weather, water freezes and expands. The resultant pressure bursts the pipe. (b) Gases. (c) Calories.

Q. Why is X-ray therapy used for the treatment of cancer ?

Ans. X-rays are of inestimable value in radiotherapy, *i.e.*, destroying diseased tissues with lethal rays that have remarkable penetrating ability. The strong X-rays when focused on the diseased tissue (infected with cancer) prove effective in destroying it. But X-rays must be used with greatest caution since they may also destroy healthy tissue and cause genetic damage.

Q. A person receives a chill if he sits in wet clothes. Why ?

Ans. As his clothes dry up by evaporation of the water, much heat is taken from his body to supply the necessary latent heat. The person, in order to make up this loss of heat, should take sufficient exercise to generate more heat in his body.

Q. Why 'dry ice' is used to keep ice-cream blocks in a frozen condition ? (I.T.O., 1966 ; I.A.S., 1963)

Ans. Carbon dioxide is a colourless carbonic acid gas, formed by the oxidation of carbon and carbon compounds. It forms a solid at -78.5°C at atmospheric pressure and gives a snow-like white appearance. Due to its low temperature, it is used as refrigerant in this form and is called dry ice. It is, therefore, ideal for preservation of frozen foods and for keeping ice-cream blocks in a frozen condition.

Q. Why is a regulator used with a large electric motor ?

Ans. A regulator is a device to regulate electric current passing on to the electric motor and therewith control its speed. It has in it a strong resistance wire which prevents large amounts of current from flowing to the motor especially at the time of starting the motor when such a current can damage the machine. It is with such regulation of current that the speed of the motor can be kept at a desired level.

Q. With two eyes we can see better. Why ?

Ans. Seeing with one eye gives an idea of flatness but seeing with two different eyes gives the object an idea of solidity.

Q. A boatman pushes the surface under the water or the water itself to move his boat. Why ?

Ans. This is due to the principle that action and reaction are equal and opposite in direction. When the boatman pushes the under-water surface or the water with the pole or the oar, as the case may be, the object pushed at gives back the same push in equal strength and makes the movement of the boat possible.

Q. When a cyclist takes a curve he bends on one direction. Why?

Ans. It is done to keep balance, by having the centre of gravity within the base. The centrifugal force, produced by means of the cyclist being in motion in a curved path, must be equalled

in the opposite direction by the centripetal force to keep the cyclist in balance in his curved path. The centripetal force is provided by the act of bending.

Q. A blotting paper absorbs ink or oil rises up the wick to the flame. Why ?

Ans. Either phenomenon is due to the capillary action. Capillarity is a cohesive force which produces a tension upon the film of water (or oil and other liquids) in a tube of small bore, causing a distinct rise of the liquid in the tube. Oil rises in the wick on the same principle.

Q. Why does the smoke rise in the atmosphere in a curl ?

Ans. It is due to atmospheric resistance. Hot, light gases, issuing from the chimney, have to brave atmospheric resistance which prevents them from going straight upwards. Hence the smoky curls which facilitate their path upwards.

Q. Why do we not see the stars in the day-light ?

(I.A.F., 1960)

Ans. The blazing light of the sun during daytime prevents the soft light of the stars from being seen distinctly

Q. What causes land and sea breezes ? (I.M.A., May, 1967)

Ans. These breezes are caused owing to the difference in specific heat of water and land. The land gets hot quickly and also emits its heat quicker than the water. During the day, land gets heated up quickly and the warm air, becoming lighter, rises up. Consequently a breeze from the comparatively cooler sea blows towards the land. Conversely, at night the land radiates its heat quickly and becomes cooler and causes a cooler land breeze to blow towards the sea where a comparatively warm air rises up to be replaced by the cool land breeze.

Q. Why do diamonds shine at night ?

Ans. It is because the light that enters into a diamond is strongly reflected successively owing to high refractive index. Refractive index is the constant ratio that exists between the velocities of light in the two given media.

Q. A communication satellite appears standstill to a viewer on earth. Why.

Ans. A communication satellite is launched in such a manner as it completes one revolution round the earth in 24 hours, the time taken by earth for one rotation round its own axis. The satellite, though orbiting, thus appears stationary over one spot.

Q. How is the temperature inside the sun maintained at very high and constant value ?

(I.A.S., 1963)

Ans. It is true that the sun is constantly losing its heat, but it is also true that the same is made up by the change in atomic structure taking place in the sun's material. Emission of heat brings up contraction in the gases that form the sun and consequently their temperature is risen. Hydrogen atoms, therefore, get constantly exploded in the sun, producing tremendous amount of heat. This more than makes up the loss in sun's heat.

✓Q. Will the sun ever cool down ?

Ans. Yes, in the very very long run. It may sound contradictory but is true that as the sun ages, it is going steadily hotter. It is quite possible that after thousands upon thousands million years, our oceans will boil up, our atmosphere will escape into space and all earthly things will perish. The two inner planets Mercury and Venus, lying between the earth and sun, will be completely destroyed. Jupiter and Saturn, now in bitter cold, will warm up. But this fantastic blaze of the sun would be its "last defiant gesture of departing glory", the proverbial flicker before going down completely. The sun will then collapse as a small massive body, cold, dark globe, lightless and heatless with its ghosts of planets circling it in deathly silence and eternal night. The sun which was responsible for creating the earth would then "inevitably destroy its own child".

Q. As the earth is growing old, the days are becoming longer. Comment.

Ans. According to researches carried out on shells by Richard M. Barker of the U.S.A., the time taken by earth in its rotation on its axis (day formation), is not constant. In fact as the earth ages, it takes more time to complete a rotation. According to him, 390 million years ago, there were 399 days in a year, 13 months and a day of 22 hours' duration. Some 80 million years back, the year had 376 days of about 23 hours' duration. In the distant future time, therefore, the day may be of 25 hours' or even 30 hours' duration.

✓Q. Will the earth's magnetic field ever fail ? Comment.

Ans. According to studies carried out on fossil magnetism printed into rocks, the earth has, during the last four million years, reversed its magnetic field sixteen times. The field is progressively reduced to zero and then is again built up in the opposite direction. In the same manner, in just a few thousand years from now, the magnetic field may again fall to zero. The life on earth will then perish under the unchecked radiation of sun's lethal rays.

✓Q. Will the earth's oxygen ever run short ? If so, what will happen to life on earth ?

Ans. Scientists warn that the oxygen in atmosphere is being consumed at a rate higher than its production. The fossil fuel is burning up oxygen in great amounts. Due to civilization's encroachment on green fields and increasing deforestation, the atmosphere is denied full replenishment of oxygen, released by the photosynthesis of plants. The industrial effluents and toxic chemicals, discharged in the ocean, kill Planktonic diatoms which produce 75 per cent of the earth's oxygen by photosynthesis. Fast multiplying human population contributes further to the shortage of the gas. Thus, if the situation remains unremedied for long, a time will come when oxygen gas will entirely disappear and destroy with it all life that it supports at present on this planet.

Q. Does the atmosphere rotate along with the earth ? Explain.

Ans. While the scientists had till now believed that the atmosphere moved with the earth, Dr. C.V. Raman of India has

recently declared that it is quite independent of the earth movements although it is attracted by the gravitational pull of earth. This theory will greatly help in the accurate forecasting of weather and other atmospheric disturbances.

Q. A moth flies into a candle flame. Why ?

Ans. The moth suffers from phototropism which shatters its vision and nervous system when it nears the flame. In the resulting imbalance due to loss of control, it runs into the flame and burns itself up. This fact runs counter to the popular belief that the flame holds mysterious attraction for the moth which sacrifices by jumping into the flame in an ecstasy.

Q. Why rain water is soft but river water is hard ?

(*Asstt. Gde., 1967*)

Ans. Rain water is without any impurities or chemical substances whereas river water has sulphates and chlorides of magnesium and calcium which prevent the water from forming lather with soap. The latter is, therefore, called hard.

Q. Why does a pice lying at the bottom of the surface under water appear to be raised ?

Ans. It is because of refraction of light. The light rays coming from the denser medium of water to air bend upwards and give impression of the underwater surface being higher than it really is.

Q. Why do dirty clothes become clean when put in hot water with washing soda ?

Ans. Washing soda removes the hardness of water and helps the water to form lather with soap.

Q. Why is the weight of an object slightly greater at the poles than at the equator ?

Ans. Weight is the force of attraction of the earth on a given mass. Since this force (of attraction) is greater at the poles on account of less distance from the centre of the earth, the body gains weight.

Q. A man flying in outer space suffers from weightlessness. Why ?

(*State Bank, Dec., 1967*)

Ans. Weight is the force of attraction of earth on a given mass. But a person flying in outer space is subject to an upward force greater than the attraction of earth. The attraction of earth having been thus neutralised, the result is the phenomenon of weightlessness.

Q. Human breath is visible in winter but not in summer. Explain.

Ans. The exhaled breath contains water vapours which condense in the cold atmosphere outside and assume smoky appearance.

Q. Why does a tennis ball bounce higher at higher altitudes (Simla or Mussoori) than it does in plains (Calcutta or Chandigarh)?

Ans. Firstly, places at higher altitudes are farther away from the centre of gravity and the downward pull due to gravity is less.

Secondly, at such places the atmosphere is rarefied and offers little resistance to the ball's movement upwards. Both factors help the ball to have a higher bounce.

Q. Why does the gun kick back, when the bullet is fired ?

(I.T.I. 1966)

Ans. It is due to the fact that every action gives a reaction of equal strength and in the reverse direction.

Q. Why does a moving body come to a stop by itself ?

Ans. A moving body comes to rest owing to the reaction that it has to suffer at the hands of friction.

Q. The air is removed from the inside of an electric bulb.

Why ? (N.D.A., May, 1967)

Ans. The bulb has a metallic filament which would rust in the presence of oxygen. Removal of air is, therefore, necessary.

Q. Why does ice melt less readily when salt is put on it ?

Ans. Salt has the properties to lower temperature.

Q. A stone immersed in water weighs less than in air. Why?

Ans. The stone loses its weight equal to the weight of the volume of water that it displaces. The difference is the weight actually felt in water.

Q. Why are cloudy nights warm ?

Ans. The clouds do not permit radiation of heat from earth and only a little of it escapes into the atmosphere. The result is the warm conditions on earth.

Q. It is dangerous to sleep in an unventilated room with fire burning. Why ?

Ans. In a closed room, the fire burns up all oxygen and, at the same time, produces large amounts of carbon dioxide and monoxide. The latter is highly poisonous. This phenomenon can cause death to the inmates of the room.

Q. What is 24-carat gold ?

Ans. Carat is the measure of fineness of gold expressed as parts of gold in 24 parts of the alloy. Thus 24-carat gold is pure gold. 22 or 14 carat gold contains 22 or 14 parts of gold, the rest being some metal usually copper.

Q. Why are mountains cooler than plains ?

Ans. The air of the mountains, being less dense on account of absence of dust particles etc. does not absorb much heat which makes the conditions cooler than in the plains.

Q. How do fish swimming at great depth in water breathe?

Ans. Water contains dissolved air and also a quantity of oxygen. The fish is a gill-breathing vertebrate, the gills having the function of sucking oxygen from water. The fish can, therefore, live in deep waters and breathe.

Q. There is a gap between the two pieces of railway line. Why ?

Ans. When heated up, the metallic railway line expands. With a view to saving it from bending, space is left between the two pieces to neutralize the expansion.

Q. Moisture gathers up round the glass of cold water on a warm day. Why ?

Ans. On a warm day, the air carries sufficient water vapours which, when they come into contact with the cold glass surface, condense and form drops of water round the glass.

Q. How much blood does a normal person have in his body?

Ans. About 7 per cent of his body weight.

Q. Why is the lower portion of the kettle blackened ?

Ans. Black colour absorbs more heat which, in turn, makes cooking quicker.

Q. What does a radiator do in a motor car ?

Ans. The radiator is the cooling system for the motor engine. During its normal running, the engine produces great amounts of heat which must be got rid of to save the engine from being burnt up. The radiator with water stored in it keeps the engine cool.

Q. How is a photograph made ? Explain in detail.

Ans. Photography is the process by which pictures are produced by the action of light upon surfaces treated with chemicals sensitive to light. A camera fitted with appropriate lenses, is employed to capture the image of the object (intended to be photographed) on a plate or film made of glass, celluloid or other transparent material and covered with the emulsion containing silver bromide or silver chloride. The exposed film is then treated with the chemical action of *developing*. The chemical developers are meant to produce a black deposit of fine particles of metallic silver on those portions of the film which had been exposed to light. This gives a negative image. The negative is then given a *fixing* bath on sodium thiosulphate. After final wash with water, the result is the negative, free from light-sensitive silver parts.

The finished negative is then placed over a sensitive paper similar to the film and exposed to light. The silver salts in the paper are affected in a similar way to those in the original film. The dark portions of negative let least or no light pass through them with the result that the whiter (image carrying) portions impose their image on the developed paper. The negative image is thus again reversed and an exact image of the object is obtained, which after proper *fixing* and washing, is called a photograph.

SCIENTIFIC NAMES OF SUBJECTS

Acoustics. Science of sound, its production, transmission and effects.

Aerodynamics. The physics of air and other gases in motion and their mechanical effects.

Aeronautics. Science of air navigation.

Anatomy. Science of bodily structures and structural relationship including histology, comparative anatomy and embryology.

Archaeology. Scientific study of the ancient relics of man, found in deposits and ruins.

Astrology. Science of predicting the human destinies as influenced and conditioned by the positions and movements of stars. It includes the Natural Astrology (planetary influences on

weather etc.) and Judicial Astrology (planetary effects on human beings). The latter includes the construction of horoscopes, the planetary position at the time of birth of an individual, which greatly helps the astrologer to predict the likely future of that individual.

Astronomy. Science of study of heavenly bodies, their nature, position and motions.

Astrophysics. A branch of Astronomy which studies the physical and chemical nature of heavenly bodies.

Ballistics. Science of motion and propulsion of projectiles.

Biochemistry. Study of chemical substances and chemical processes of living things.

Biology. Study of living things—animals and plants.

Bionics. The science which investigates the sensory perception of animals and utilizes the information in electronics.

Botany. Scientific study of plants.

Ceramics. The art of pottery.

Cinematography. The art of photographing a moving object and then projecting it upon the screen in a series of pictures in quick succession giving an appearance of movement of the object.

Cosmogony. Theory of the creation of universe.

Cosmography. Description and mapping of general features of universe or earth.

Cryogenics. The study of the behaviour of metal at extremely low temperatures. It is also the technology concerned with the production, control and application of very low temperatures.

Demography. Vital statistics—of births, mortality, diseases etc. —illustrating condition of communities.

Ecology. Science dealing with the relationship between living organisms and Earth and includes a study of the balance of nature. In other words, it explains how the living organisms and the inanimate matter combine to make a harmonious ecosystem.

Electronics. The study and application of electron motion including the means for producing it, the laws governing it and the means for controlling it for useful purposes.

Electrostatic. Science of statical electricity.

Embryology. Science of the embryo. Embryo is the offspring of the animal before birth.

Entomology. Study of insects.

Ethnography. Scientific description of human races.

Ethnology. Science of races, their characteristics and relations to one another.

Etymology. That part of linguistic science which deals with formation and meaning of words.

Eugenics. Science of the production of fine human offsprings.

Exobiology. Science dealing with life or a possibility of life on planets other than the earth.

Gastronomy. Art and science of good eating.

Geneology. History of the descent of a person or family.

Genetics. Study of the problems of heredity and variation.

Geodesy. Science dealing with the measurement of the earth's surface. It is a branch of mathematics.

Geology. Science dealing with the constitution and history of the earth's crust, including its strata and their relations and changes.

Geophysics. The scientific study of structure and composition of earth by use of theoretical and applied physics.

Geopolitics. The politics of a country as determined by its geographical features.

Gynaecology. Science of diseases of women.

Heliotherapy. Use of sun-baths in treating diseases.

Holography. The process of three-dimensional photography, produced by coherent stimulated light beams, called LASER.

Horticulture. Scientific cultivation of fruit, vegetables, flowers and shrubs.

Hydrodynamics. Study of motion and pressures of liquids.

Hydrography. Scientific description of the waters of earth.

Hydrotherapy. Medical treatment by external and internal application of water.

Hydroponics. Study of detection of sound-waves in water.

Hydroponics. Art of growing plants without soil, in water mixed with chemicals.

Hydrostatics. The mathematical study of forces and pressures exerted by liquids at rest.

Lexicography. Dictionary-making.

Metallurgy. The science and art of extracting metals from their ores and their adaptation to manufacture.

Meteorology. Study of the phenomena of atmosphere for weather forecast.

Mycology. Study of fungi.

Numismatics. Art and study of coins and coinage.

Optics. Science of the eye or sense of sight.

Ornithology. Scientific study and knowledge of birds.

Osteopathy. System of therapy emphasising manipulation. It is based on the belief that health can be maintained by attention to the proper mechanical adjustment of the body rather than by the use of drugs.

Paleobotany. Science of the relics of plants.

Palmistry. Art of reading the hand ; it includes character reading and foretelling of future by reading the lines on the human palm.

Parapsychology. Scientific study of para-normal human abilities such as precognition, clairvoyance (faculty of seeing mentally what is happening or exists out of sight) and telepathy.

Pathology. Science of bodily diseases.

Pedagogy. Science of teaching.

Penology. Study of punishment and prison management.

Philately. Science of stamp-collecting.

Philology. Science of languages.

Phonetics. Study of the phenomena of the vocal sounds of a language ; the system of spelling.

Photomicrography. The art of photographing objects as enlarged under the microscope.

Physiography. Physical geography ; study of nature and natural phenomena.

Physiology. Science of normal functions and phenomena of living organisms ; study concerned with life processes.

Phytotron. A mechanical device capable of creating artificially, in a limited area, any type of climate that may be required ranging from tropical to arctic. It will help researches in environmental biology.

Pisciculture. Artificial rearing of fish.

Psychology. Science of the nature, functions and phenomena of human mind.

Radiology. Scientific study of X-rays ; study and use of X-rays in medicine.

Seismology. Scientific study of earthquakes.

Sericulture. Art of silkworm breeding and production of raw silk.

Taxidermy. Preparation and preserving of the skins of animals ; art of preparing and mounting skins of animals in life-like manner.

Thermodynamics. Science of the relations between heat and mechanical work.

Topography. Physical features of particular area or region ; representation on the map of physical features or artificial aspects of a particular area.

Topology. A branch of mathematics dealing with selected properties of collections of related physical or abstract elements. It contributes to the design of geographical maps, system for industrial automation, guided missiles and automatic traffic control. No longer limited to quantitative problems, it may soon enter such fields as the social sciences, hitherto largely uninfluenced by mathematical treatment. *(State Bank of India, 1967)*

Toxinology. The scientific study of nature, properties and effects of poisons.

Tribology. The study of interacting surfaces in relative motion (concerned with the problems of wear and tear).

Voodooism. Belief in witchcraft and fetish worship. It is still in vogue among the African Negroes, West Indians (especially of Haiti) and some Negro population of America:

SCIENTIFIC INSTRUMENTS

Altimeter. A device fitted in the aircraft, usually a barometer which indicates altitude above sea level. In the modern aircraft, however, a new device, using the radio waves to show the actual distance, is being used. (*J.S.W., July, 1950*)

Ammeter (Galvanometer). Instrument for knowing the presence of current in a conductor, the direction of flow and the strength of the current.

Anemometer. An instrument which electrically records wind velocity. (*I.A.F., 1960*)

Audiometer. Instrument for testing hearing-power.

Audiophone. The instrument that assists hearing.

Barometer. Instrument for measuring atmospheric pressure, used for forecasting weather and ascertaining height above sea level.

Binocular. An optical device consisting of a pair of telescopes with powerful magnifying glass for assisting simultaneous vision of distant objects.

Cardiograph. An instrument for recording the character and movements of the heart. The record made by it is called *Cardiogram*.

Chronometer. A time-measuring instrument used on the ships.

Cinematograph. An instrument that projects upon the screen a series of pictures in rapid sequence.

Compass, Mariners'. Consisting of a freely suspended magnetic needle mounted upon a pivot over a card having the cardinal points marked on it, it is in earth's magnetic field and indicates North and South poles. It is used by the mariners to know the direction.

Computer. An electronic device used in data processing for business, industry and government and also employed in scheduling and control of manufacturing operations, in medical analysis, in transport and communication systems and in scientific activities of all kinds.

Crescograph. An instrument for measuring the growth of plants. This was invented by an Indian, Mr. J.C. Bose, a renowned botanist.

Cyclotron. An apparatus for electro-magnetic acceleration of charged atoms. It has made possible to make ordinary elements radio-active, leading to production of radio-active isotopes. (*I.A.S., 1965*)

Dictaphone. A machine which first records what is spoken into it and then reproduces it in type.

Dynamo. An instrument which converts mechanical energy into electrical energy, using principle of electromagnetic induction.

Electrometer. Instrument for measuring electricity.

Electromyograph (E.M.G.). Developed by the Atomic Research Centre, Trombay, it is a device for locating and diagnosing muscle and nerve abnormalities and studying progress in nerve regeneration. It will help study and detect muscular paralysing disorders like polio and leprosy.

Electron Motor. Machine for using electricity as a motive power.

Electrophorus. Instrument for generating statical electricity by induction.

Electrocardiograph. An instrument for recording of electric potential changes at each heartbeat. This is used for diagnosis of heart ailments.

Escalator. A moving staircase that carries passengers up and down.

Geiger Counter. A device for detecting and recording radio-activity. It consists of a thin metal cylinder and a needle enclosed by a glass tube in which a gas is also sealed.

Gyroscope. Rapidly rotating heavy wheel that keeps the stability of its axis. It was invented in 1852 to demonstrate the rotation of earth. These days it is used as a ship stabiliser.

Hydrometer. An instrument to determine the specific gravity of a liquid.

Hydrophone. Instrument for detecting sound waves in water.

Hygrometer. An instrument designed to measure the relative humidity in the air.

Hypsometer. Instrument to measure the height above sea level. It is in fact an apparatus for determining the boiling point of a liquid. Since, the boiling points of liquid have a direct relationship with atmospheric pressure and atmospheric pressure with altitude, therefore, the instrument may be used for the determination of altitude above sea level. This instrument is generally used by the mountaineers.

Iron lung. An apparatus, consisting of an iron case, fitted over a patient's body for administering artificial respiration by means of mechanical pumps.

Internal Combustion Engine. The term is generally applied to the Diesel or oil engine, invented by Diesel. It is an engine in which combustion takes place in an enclosed cylinder behind a piston and the fuel energy is directly transformed into mechanical energy.

Kaleidoscope. An optical instrument, comprising a cylindrical tube containing two mirrors inclined to each other at 60° with an eye piece at one end. On the other end is a glass cell containing pieces of coloured glass. When the tube is rotated, these glasses, by repeated reflection, produce various symmetrical patterns.

Kymograph. Instrument for recording variations in pressure, for example of sound-waves,

Lactometer. An instrument designed for testing the purity of milk.

Laser (Light Amplification of Stimulated Emission of Radiation). It is an optical device that produces a powerful, highly directional and coherent beam of light which can penetrate a thick iron sheet or even diamond. It is used in communications and in acceleration of chemical reactions. It has capabilities of killing ulcer cells or cells in an eye tumour in almost no time. Commercial lasers are now in use in surgery, dentistry, eye operations and even in drilling operations in rocks and construction of underground roads and tunnels. The laser beam is capable of reducing granite stone into a powder in 30 seconds. Hence its application in drilling operations. Laser is also used to measure distances separating stars and satellites in space.

(*I.A.S., N.D.A., L.D.C., 1964*)

Magnetron. A radio tube for generating very high frequency oscillations. It is used in a radar.

Magneto. Small dynamo provided with a spark-coil for ignition of petrol vapour in the petrol internal-combustion engines. It also produces high-tension alternate current. (*I.A.F., 1960*)

Megaphone. An instrument for carrying sound to long distances.

Menometer. An instrument for measuring gaseous pressure.

Micrometer. Instrument for measuring small objects or distances.

Microphone. Electrical instrument designed to intensify sound.

Microscope. An instrument with powerful magnifying lenses for examining minute objects not visible to the naked eye.

Odometer (Hodometer). An instrument for measuring the distance travelled by wheeled vehicles.

Oscillograph. An instrument designed to determine electrical and mechanical vibrations.

Periscope. Device for viewing the objects which are above the eye-level of the observer or are so placed that the direct vision is obstructed.

Phonograph. Gramophone; an instrument designed to reproduce sound.

Photometer. Instrument for measuring the intensity of light; a device for comparing the luminous intensity of sources of light.

Photo-Electric Cell. A cell or vacuum-tube which converts the photo-electric effect into electromagnetic waves. It is used in television.

Potentiometer. Instrument for measuring or adjusting electrical potential.

Pyrometer. Instrument for measuring high temperatures.

Radar. It stands for Radio Detection and Ranging. It is a system employing microwaves for the purpose of locating, identifying, navigating or guiding such moving objects as ships, aircraft,

missiles or artificial satellites. The electromagnetically radiated concentric wave-lengths are fed to a moving antenna from where they are radiated as a beam. If an object crosses the path of the beam, the latter will reflect the pulses back to the transmitter which also acts as receiver. The time that these pulses take in reaching back is methodically worked out into the distance that the object is away. Its direction can be ascertained from the knowledge of the direction of the aerial.

Radiometer. Instrument illustrating conversion of radiant energy into mechanical force ; instrument for measuring intensity of radiation.

Rain Gauge. An apparatus for recording rainfall at a particular place.

Robert. Name given to 'rocket-borne emergency transmitter', a British invention used for sending distress signals at sea as well as the position of the ship in distress.

Seismometer. An instrument designed to record the intensity and register the place of the earthquake. (*I.A.S.*, 1955)

Semaphore. A device for military signalling by operators' two arms or two flags.

Sextant. An optical instrument used in navigation for determining angular distances by measuring the altitude of the sun or the stars. The invention is attributed to Thomas Godfrey in the U.S.A. and to John Hadley in England in 1730.

Sphygmomanometer. The instrument for measuring blood-pressure.

Speedometer. Instrument to record the speed of the vehicle.

Stethoscope. A sensitive instrument used for the hearing of movement and condition of the heart or other internal organs.

Stereoscope. An optical device by which two-dimensional pictures are given the appearance of depth and solidity.

Telescope. An optical instrument designed to view the distant objects clearly.

Teleprinter. An electric device that not only receives messages on the telephone wires but also types them out automatically. This device is at present in use with the newspapers and the news agencies.

Theodolite. An instrument, used by the surveyors, to measure horizontal and vertical angles by means of telescope.

Tachometer. Instrument for measuring velocity (of aeroplanes etc.).

Transformer. An electrical instrument designed to reduce or increase the voltage of an alternating current.

Turbine. A horizontal wheel with vanes moved by the pressure of water, air or steam for conversion of any of these powers into mechanical or electrical energy. (*I.A.S.*, 1948, 1956)

Videophone. An electrical device (an improvement on telephone) that would transmit sound as well as image.

SCIENTIFIC TERMS

Aberration. Distortion of the image produced by a lens or a mirror. It is spherical when rays of light from a point are not brought to a single focus. It is chromatic when image is blurred and fringes of colour appear at its edges.

Absolute Zero. It is the point at which molecules have no heat energy. In other words, it is the lowest temperature theoretically possible and is equal to -273°C . At this temperature the gas is liquefied and its volume occupies no space.

Acceleration due to Gravity. Rate of change of velocity of a body falling freely in a vacuum. It varies slightly in different localities as a result of variations in the distance from the centre of mass of the earth.

Alkaloids. Group of very complex basic nitrogenous substances forming the active principles of plants. They act as bases, like ammonia, forming salts with acids. Some alkaloids, e.g., cocaine, nicotine, quinine and morphine have important physiological actions and are used in medicine.

Alpha Rays. Streams of fast moving alpha particles. Alpha rays produce intense ionization in gases through which they pass, are easily absorbed by matter and produce fluorescence on a fluorescent screen.

Alternating Current. A flow of electricity which, after reaching a maximum in one direction, decreases, finally reversing and reaching a maximum in the opposite direction. This cycle is repeated continuously. The number of such cycles per second is the frequency.

Allotropy. Occurrence of a chemical element in two or more forms differing in atomic arrangement and physical properties but alike in chemical properties. Elements showing allotropy include carbon, oxygen and sulphur.

Alloy. Compound formed by the mixing of two or more metals. Some of the useful alloys are brass (copper and zinc), bronze (copper and tin) and gun metal (copper and tin). Very few alloys are found in nature; most of them are prepared artificially.

Amorphous. Substances which have no definite form or shape.

Ampere. The practical unit of electrical current. An ampere-hour is a current of one ampere flowing for an hour. It is named after Andre Marie Ampere, a French scientist known for his work to advance the study of electrodynamics.

Analysis. Decomposition of substances into their elements or constituent parts. It is a chemical or physical method of determining the composition of substances.

Angular Velocity. Rate of motion through an angle about an axis. It is measured in degrees or revolutions per unit time.

Anti-Matter. Anti-particles constituting nuclei of anti-protons and orbital positrons. Some galaxies are believed to have been entirely made up of anti-matter. Contact between

matter and anti-matter would result in annihilation of both with the production of annihilation radiation. Russian scientists have successfully obtained anti-nucleons of an isotope of Helium-3, which confirms the anti-matter theory.

Aperture. Applied in photography, it is the space or opening in the camera through which light is admitted into the instrument.

Armature. The usually rotating coil or coils of a dynamo or electric motor. It is a part of an electric apparatus or machine in which a voltage is induced by a magnetic field.

Atmospherics. Electrical discharges which take place in the atmosphere and which cause crackling sounds in radio receivers.

Atom*. Derived from the Greek word *atomos* (indivisible), it is known as the smallest particle of matter having the characteristic chemical properties of an element. It has an internal structure, though formerly it was considered as the indivisible unit of matter. In fact, the atom is a planetary system in miniature.

The core of the atom consists of a dense nucleus made up of *protons*—having positive charge of electricity—and *neutrons*—having no electric charge. The two particles are collectively known as *Nucleons*. Another term *atomic number* also represents the total number of protons and neutrons in an atomic nucleus. *Electrons*, the negatively charged particles, orbit around the nucleus. The neutrons and protons have almost equal mass but an electron has only 1/1840th mass of a proton.

The nucleus of atom is tightly packed in spite of the fact that protons, carrying the same charge, repel each other. Some of the mass converts into energy which, in turn, helps bind the protons together. Thus the mass number of an atom never equals the actual masses of the particles that constitute it. The missing mass is converted into energy, called *atomic energy*, in accordance with Einstein's mass-energy equation ($E=mc^2$) and appears as a product of transformation. The atomic energy is released by either of the two processes known as the **Nuclear Fission** or **Nuclear Fusion**.

Atomic Number. The number of electrons rotating round the nucleus of the neutral atom of an element, or the number of protons in the nucleus.

Battery. In electricity, a battery is a collection of cells, used as a source of electric current. It may also be of storage type which is a much-used current source in automobiles.

Beta Particles. An electron or positron emitted by a radioactive nucleus. The emission of an electron involves the change of a neutron into a proton within the nucleus, while the emission

*Atom is reported to have been isolated and photographed by an American physicist Albert Crewe.

of a positron involves the change of a proton into a neutron. Beta-particles do not exist within the nucleus, but are created at the instant of emission.

Beta Rays. Stream of beta particles which possess greater penetrating power than alpha rays and are emitted with velocities in some cases exceeding 98 per cent of the velocity of light.

Calorie. Unit of quantity of heat. Small calorie is the amount of heat required to raise temperature of 1 gram of water through 1°C . Large calorie or kilogram calorie is the heat required to raise temperature of 1 kg. of water at maximum density 1°C .

Carburettor. Device in internal-combustion petrol engine for mixing air with petrol vapour preliminary to explosion. (*Stenos, 1967*).

Cardiogram. The record made by a *cardiograph*, an instrument for recording the heart movements.

Catalysts. Extensively used in the chemical industry, catalysts are substances which alter the rate at which a chemical reaction occurs but are themselves unchanged at the end of the reaction.

Chain reaction. Any self-sustaining molecular or nuclear reaction, the products of which contribute to the propagation of the reaction. A fission chain reaction is a process in which a neutron splits a nucleus which instantly ejects at least two new high-speed neutrons which in their turn split other nuclei. More neutrons are ejected to shatter other nuclei and so on indefinitely. Thus millions of nuclei are capable of releasing their immense store of energy instantaneously. The chain reaction so created is the basis of the atomic bomb and the nuclear reactor.

Chlorination. The process in which very small quantity of chlorine is added to water to purify it.

Chlorophyll. It is the green pigment found in plants, which absorbs energy from sunlight, enabling them to build up carbohydrates from atmospheric carbon dioxide and water by photosynthesis.

Chromosphere. Layer of the sun's atmosphere surrounding the photosphere which is visible during a total eclipse. It is several thousand miles thick.

Coagulation (of proteins). When solutions of water-soluble proteins (albumens) are heated, the protein becomes denatured at a definite temperature. It then becomes insoluble and either remains in suspension or is precipitated as a clot. Some other proteins, e.g., globulins may be coagulated with heat or by adding an acid or alkali.

Cosmic Rays. Radiation of unknown origin falling on the earth from the outer space and consisting chiefly of charged particles, namely protons, electrons and alpha particles. They carry large amount of energy and are able to penetrate nearly all substances.

Critical Mass. The minimum amount of fissile material required in a nuclear reactor or a nuclear weapon to sustain a chain reaction.

Dehydration. Elimination or removal of water. This term is usually applied to the removal of chemically combined water.

Deliquescence. The state of becoming liquid on exposure to air. Certain substances like calcium chloride pass into liquid when exposed to air.

Deuterium. A heavy isotope of hydrogen with mass about double that of ordinary hydrogen.

Dynamite. Explosive made from nitroglycerine and a porous substance. It was discovered in 1866 by A.B. Nobel.

Effective Resistance. The resistance of a conductor of electricity to alternating currents.

Efflorescence. The state of turning to fine powder on exposure to air. The term is also applied to some salts which come to the surface and there crystallize.

Electrolysis. The process of chemical decomposition by means of an electric current. If a current is passed through a conducting liquid, chemical change sets in and the products of decomposition appear at the electrodes.

Electromagnet. Temporary magnet formed by winding a coil of wire round a piece of iron. When the electric current flows through the wire, the iron becomes a magnet.

Electron. A unit of negative electricity. It is one of the fundamental constituents of matter and normally rotates about the positive nucleus of every atom.

Electronic video recording (EVR). The process whereby television films can be made of the recorded (ready-made) programmes. Sold as records, they can be played (screened) on a TV set with an adaptor box.

Electrotyping. A method of printing whereby a wax or other mould of the type to be reproduced is faced with graphite on which copper or other metal is deposited electrolytically. On removing the mould, the impression is used for printing copies of the original.

Endothermic Reaction. A chemical reaction which is accompanied by absorption of heat.

Fermentation. Chemical change brought about in organic substances by living organisms like yeast and bacteria by enzyme action.

Fission, Nuclear. A nuclear reaction in which a heavy atomic nucleus (e.g. uranium) is split into two approximately equal parts, at the same time emitting neutrons and releasing very large amounts of nuclear energy.

Fluorescence. Property of absorbing light of short (invisible) wavelength and emitting light of longer (visible) wavelength.

Freezing Mixture. Certain salts which produce considerable lowering of temperature when they are dissolved in water or are mixed with crushed ice.

Freezing point. Temperature at which liquid, especially water, freezes. In technical language, it is the temperature of

equilibrium between solid and liquid substance at a pressure of one standard atmosphere.

Gamma Rays. Electromagnetic radiation of the nature of X-rays but of shorter wavelength. These are emitted by the nuclei of radioactive atoms during decay and in units called photons.

Gravitation. Newton's law which states that every particle in the universe attracts every other particle with a force which is proportional to the product of the masses of the particles and inversely proportional to the square of the distance between them.

Hard Water. Water having elements of calcium, magnesium and iron. Such water does not form lather with soap.

Heavy Water. Water in which the hydrogen is replaced by deuterium. Heavy water molecule consists of two atoms of heavy hydrogen and one of oxygen.

Ignition. The process or means of firing the explosive mixture in an internal-combustion engine by an electric spark.

Ignition Point. The lowest temperature at which the substance can burn.

Intra-Red Radiation. Electromagnetic radiation possessing wavelengths between those of visible light and those of radio waves. Infra-red radiation has the power of penetrating fog or haze.

Ionisation. The process whereby a molecule is split up into ions. Ions are electrically charged atoms or group of atoms.

Iononer. A new plastic material, characterized by exceptionally good transparency, toughness and resilience and made up of organic as well as inorganic materials.

Ionosphere. The region of the earth's upper atmosphere in which free electrons arising from ionization occur, mainly as a result of ultra violet radiation and X-rays from the sun. It makes possible long distance wireless communication by reflecting radio waves back to earth.

Isobars. Isotopes of different elements which have different atomic numbers but identical mass numbers.

Isotones. Atoms whose nuclei contain the same number of neutrons, but which are of different atomic number.

Isotopes. Atoms having the same atomic number (or identical in chemical activity) but differing in mass number (or atomic weight). The different isotopes of an element contain different numbers of neutrons in their nuclei. Nature's elements consist of mixtures of several isotopes.

Kinematics. The section of mechanics dealing with pure motion—motion without reference to mass or force.

Kinetic Force. The energy which a body possesses by virtue of its motion.

Kilowatt-Hour. A practical unit of work, it refers to the work done when a rate of work of 1,000 watts is maintained for one hour.

Lightning Conductor. An appliance, consisting of a copper terminal fixed on the highest part of the building and running downwards to an earth plate of copper buried in damp soil. This device is designed to discharge gradually the electric current of lightning into the earth.

Luminescence. Emission of light from a body from any cause other than high temperature.

Malleability. Capacity of certain metals or alloys being hammered into thin sheets.

Metalloid. Element having some properties characteristic of metals, others of non-metals.

Molecule. Smallest portion of a substance capable of existing independently and retaining the properties of the original substance.

Neutron. Elementary particle which is a constituent of all atomic nuclei except that of normal hydrogen. Neutrons are neutral or non-electrified particles having a mass only very slightly greater than that of the protons, the electrified particles, with which they occur within the nuclei of nearly all atoms.

Nuclear Fission. *See under* Fission, Nuclear.

Nuclear Fusion. A nuclear reaction between light atomic nuclei as a result of which a heavier nucleus is formed and a large quantity of nuclear energy is released.

Ohm, The. The unit of electrical resistance.

Oxidation. The combination of oxygen with a substance, or the removal of hydrogen from it. In the case of metals, oxidation is often the cause of corrosion upon, for example, iron when exposed to the air especially when moisture is present.

Osmosis. The flow of water (or other solvent) through a semi-permeable membrane, flowing from a weaker to a stronger solution, the solutions tending to become more nearly equal in concentration. Osmosis is an important factor in the root absorption of plants.

Photolysis. The decomposition of a chemical compound as the result of irradiation by light or ultra-violet radiation.

Photon. A quantum of electromagnetic radiation (or light) having zero rest mass and energy equal to the product of the frequency of the radiation and Planck's constant— $h\nu/c^2$ where ν is frequency of radiation, h is Planck's constant and c is the velocity of light. Photons are generated when, in collisions between nuclei or electrons and in the decay of certain nuclei and particles, a particle possessing an electric charge changes its momentum.

Piezoelectricity. Derived from the Greek word *Piezo* meaning pressure, it means *pressure electricity*. Piezoelectric effect is the phenomenon of mechanical strain in a crystal due to applied electric stress and the reverse action of electric polarization when subjected to mechanical stress. By this method, electric potentials ranging from a fraction of a volt to several thousand volts can be obtained.

Plasma. In physics, it denotes a gas which contains charged ions of both types in equal numbers. It is, therefore, a conductor of electricity. Plasma physics is being utilised to achieve controlled nuclear fusion.

Polythene. Strong, waxy thermoplastic material, used as an insulating material and for many other purposes.

Polywater. Recently discovered (1962) new form of water which freezes at below 40° below 0°C (instead of 0°C) and boils at 500°C .

Power. It is the rate of doing work.

Proton. A fundamental particle of atomic nucleus, having positive unit charge. The simplest ion (or electrically charged atom) is one proton. Number of protons in nucleus is the atomic number.

Radioactivity. A property involving emission of special types of radiation. It is shown by certain elements like radium, uranium etc. This radiation is of three kinds, namely Alpha, Beta and Gamma, which have been discussed earlier.

Radiolysis. The chemical decomposition of substances as a result of irradiation.

Regelation. French word meaning re-freezing. A little pressure of the hand suffices to melt the snow under it and then on relaxing the pressure it re-freezes forming a snowball. Another example is in relation to the glacier. The lower pressed snow melts, emerges from the mass and then immediately refreezes forming a glacier. (S.C.R.A., 1960)

Relativity, Theory of. Formulated by Einstein in 1905, it states that :—

- (a) Absolute motion has no observable effect upon physical phenomena ;
- (b) The laws of natural phenomena are the same for all observers;
- (c) The velocity of light is the same for all observers irrespective of their own velocity, *i.e.*, its value is constant for all places in the universe, no matter what may be the relative movements of the earth or other system of reference involved.

Sidereal Day. The period of a complete rotation of the earth upon its axis, with respect to the fixed stars.

Sidereal Year. The time interval in which the sun appears to perform a complete revolution with reference to the fixed stars.

Spectrum. When white light passes through a prism, it undergoes refraction and results in a coloured band consisting of red, orange, yellow, green, blue, indigo and violet. Beyond the end of the spectrum are the infra-red rays and beyond the violet end the ultra-violet ray.

Sublimation. The conversion of a solid direct into vapour and subsequent condensation, without melting.

Stainless Steel. Steel containing iron (70 to 90%), chromium (12 to 20%) and carbon (0.1 to 0.7%).

Superphotonic speed. Speed more than that of light.

Television. Transmission of moving images by electrical means. The light waves are converted into electrical impulses by a television camera and reconverted into a picture on the screen of the receiver.

Volt. Unit of electromotive force or potential difference. It is defined as the pressure which, applied to a conductor of 1 ohm resistance, will produce a current of 1 ampere.

Watt. Unit of power. It is the energy expended per second by an unvarying electric current of 1 ampere flowing through a conductor the ends of which are maintained at a potential difference of 1 volt.

X-rays. (or Roentgen rays). Electromagnetic radiations of the same type as light, but of shorter wave-length. X-rays affect a photographic plate in such a way that the bones are more opaque than the flesh of the body. A photograph thus taken of the bones of a person is useful for the diagnosis and treatment of various bone and lung diseases.

CHAPTER 13

UNITED NATIONS ORGANISATION

Q. What are the following Organizations, and where are their headquarters ?

(i) UNESCO (ii) FAO (iii) WHO (Clks. Gde., 1970)

Ans. (i) See page 417 (ii) See page 417 (iii) See page 418.

Q. (a) What is meant by 'Veto'? Which country has last used it in the U.N.O. and for what purpose?

(b) What is the function of the World Bank ?

Ans. (a) It is the power vesting in the five permanent members of the UN Security Council by the exercise of which any subject being discussed or any resolution having been put to vote is automatically dropped. The last to exercise the right of veto was Britain. It was on the Rhodesian issue.

(b) See page 418 (under I.B.R.D.)

Q. (a) What are the principal organs of the United Nations ?

(b) Where are the (i) UNESCO and (ii) The WHO located ? What are their objectives ? (J.N., Dec., 1969)

Ans. (a) See pages 412—416.

(b) (i) Paris (France); (ii) Geneva (Switzerland). For details see pages 417—418.

Q. Answer the following :—

(a) (i) Name the seat and President of the International Court of Justice. (ii) Mention the number of Judges constituting the Court and their term of office. (iii) How are the Judges appointed ?

(b) (i) Mention the five non permanent members of the Security Council that were elected in October, 1967, for the term 1970-71. (ii) Name the permanent members of the Council.

(c) Name the women Presidents of the U.N. General Assembly and their country.

Ans. (a) (i) The Hague ; Mohammad Zafrullah Khan (of Pakistan). (ii) The Court consists of 15 Judges. Chosen on the basis of their qualification, they serve for a term of 9 years, being eligible for re-election. (iii) The Judges are elected by the UN General Assembly and the Security Council, voting independently.

(b) (i) Burundi, Nicaragua, Poland, Sierra Leone and Syria. (ii) United States, Great Britain, U.S.S.R., France and China.

(c) Mrs. Vijayalakshmi Pandit (India) and Miss Angie E. Brooks (Liberia—Africa).

Q. Mention the objects of the United Nations Organisation.
(SCRA., Clks, Gde. ; IMA, Apr., 1969 ; I.N., Dec., 1968)

Ans. The objects of the United Nations are : (i) to maintain international peace and security ; (ii) to develop friendly rela-

tions among nations ; (iii) to cooperate internationally in solving international economic, social, cultural and humanitarian problems and in promoting respect for human rights and fundamental freedoms, and (iv) to be a centre for harmonizing the actions of nations in attaining these ends.

Q. What is the total number of the members of the United Nations Organization ? Name the countries which became its members during 1968. *(Geologists, 1969)*

Ans. The United Nations has 127 members at present. Those which joined the Organization in 1968 were Mauritius, Swaziland and Equatorial Guinea.

Q (a) Answer the following :—

(i) When did the U.N. come into existence ? (ii) Where is it located ? (iii) Name the Secretary-Generals of the U.N. from its inception. (iv) How long does the Secretary-General hold office ? (v) How is he appointed ?

(b) Name the official languages of the U.N.

(c) Where are the following located :—

(i) International Labour Organization (ii) International Monetary Fund (iii) Inter-Governmental Maritime Consultative Organization. *(I.N., July, 1969)*

Ans. (a) (i) 24 October, 1945 (ii) Manhattan Island, New York (USA). (iii) Mr. Trygve Lie (1946-53), Mr. Dag Hammarskjöld (1953-61) and U Thant (1961 to date). (iv) The Secretary-General is appointed for a term of five years but it can be extended. (v) He is appointed by the General Assembly upon the recommendation of the Security Council.

(b) Chinese, English, French, Russian and Spanish.

(c) (i) Geneva (Switzerland); (ii) Washington (USA) ; (iii) London (England).

Q. Describe the functions of the following and mention where they are located (Not more than 5 lines each).

(i) International Court of Justice (ii) International Bank for Reconstruction and Development. *(I.N., Dec., 1968)*

Ans. (i) See page 415 (ii) See page 418.

HISTORY OF THE UNITED NATIONS ORGANISATION

Every war produces conditions for peace and every spell of peace is an opportunity to prepare for war. War and peace have been playing this hide-and-seek game ever since man learnt to differ. The process continues but the circumstances are much different today from those that prevailed in the past. In the previous ages life moved slowly and it, therefore, killed slowly. The war was a scourge but it could not destroy the civilisation in its totality. But now, man has the capacity to completely destroy himself and the civilisation that goes with him.

The scientists say that an atomic free-for-all war can completely destroy the very physical conditions from which man has evolved. The earth will then never be able to produce life in the

shape we find it today. Even a limited war, a nuclear war, would destroy the best specimens of human achievement and leave only isolated human pockets here and there, struggling to find a precarious living from dangerously contaminated earth. The very thought of such a possibility leaves us dead cold. This also goads us to seek a durable peace. Hence the need for the United Nations Organisation.

Origin of the United Nations. The United Nations Organisation was born in the tragedy of the Second World War. When the men in uniform were savagely shooting each other down from their operational holes and ditches and when the various engines of war were bringing death and destruction to the innocent people living far behind the live battlefields, some people were genuinely struggling to prevent revisitation of this evil. Thus the main object of the United Nations was to oust war— the war that arises in the minds of men.

The name "United Nations" was initially used for the 26 nations that pledged on 1 January, 1942 to continue fighting against the Axis Powers and not to make peace with the enemy separately. The Moscow Declaration of October, 1943 by the U.S.A., U.C.S.R., Great Britain and China paved the way for the organisation which could effectively replace the defunct League of Nations. The U.N. Charter was drawn up by representatives of 50 countries at the United Nations Conference on International Organisation which met at San Francisco on 25-26 June, 1945. The Charter was signed by the 50 countries on 26 June, 1945. Poland, though it signed the Charter later, was admitted as the fifty-first founding member. On the formal ratification of the Charter by a majority of the members, the U.N.O. officially came into existence on 24 October, 1945, which day every year is now celebrated as the United Nations Day. (SCRA, 1962)

Purposes and Principles. The aims and objects of the United Nations, enshrined in the Preamble to the U.N. Charter, embody the determination of the world nations to :

(a) save succeeding generations from the scourge of war, which twice in our lifetime has brought untold sorrow to mankind ;

(b) reaffirm faith in fundamental human rights, in the dignity and worth of human person, in the equal rights of men and women and of nations, large and small ;

(c) establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained ; and

(d) promote social progress and better standards of life in larger freedom.

The purposes of the United Nations have been described to include :

(i) maintenance of international peace and security ;

(ii) development of friendly relations among nations ;

(iii) universal co-operation in solving international economic, social, cultural and humanitarian problems and in promoting respect for human rights and fundamental freedoms ; and

(iv) provision of a forum for harmonising the actions of nations in attaining these common ends. (*S.C.R.A., P.C.S., 1962*)

Simultaneously, the United Nations laid down detailed principles to regulate its conduct. The organisation, therefore, acts in accordance with the following broad principles :—

(i) The United Nations is based on the sovereign equality of all its members.

(ii) All members are to fulfil in good faith their Charter obligations. They have to settle their differences in accordance with the Charter and by peaceful means without endangering peace, security and justice.

(iii) They are to refrain in their international relations from the threat or use of force against other States.

(iv) They have to support the United Nations in its peace-keeping operations and not to assist those States against whom preventive or enforcement action is being taken.

(v) Nothing in the Charter is to authorise the United Nations to intervene in matters which are purely the national concern of any State.

(vi) Membership of the United Nations is open to all peace-loving nations which accept the obligations of the United Nations Charter and, in the judgment of the Organisation, are able and willing to carry out these obligations.

(vii) Members may be suspended or expelled by the General Assembly upon the recommendation of the Security Council. They may be suspended if the Security Council is taking enforcement action against them and expelled if they persistently violate the principles of the Charter.

Main Organs of the United Nations. The United Nations Organisation is made up of the following six main organs :—

- (i) The General Assembly ;
- (ii) The Security Council ;
- (iii) The Economic and Social Council ;
- (iv) The Trusteeship Council ;
- (v) The International Court of Justice ;
- (vi) The Secretariat. (*Asstt. Gde., Stenos., IMA, May, 1967*)

Official Languages. The official languages of the United Nations are Chinese, English, French, Russian and Spanish. However, its working languages are English and French. Spanish is also a working language of the General Assembly and of the Economic and Social Council.

Flag of the U.N.O. White U.N. emblem (Two bent olive branches opening at the top and in between them is the world map) on a light blue background.

(*Asstt. Gde., 1963 ; S.C.R.A., 1966 ; Stenos., 1967*)

Headquarters of the U.N.O. The headquarters of the U.N.O. is at New York on the Manhattan Island. This 17-acre tract of land was donated by John D. Rockefeller and the present Secretariat building came up in 1952.

Membership of the U.N.O. The United Nations has 127 members. The latest to join the Organization is Fiji. Indonesia which had withdrawn in January, 1965 returned to the body in September, 1966.

Non-Members of the U.N.O. 1. People's Republic (Communist) China. She has been consistently refused membership by a majority of members. 2. Germany (Both East and West Germany). 3. Korea (Both North and South Korea). 4. Switzerland. She prefers to remain out of the U.N.O. of her own free will. 5. Vietnam (Both South and North Vietnam).
(*I.A.S., 1965 ; S.C.R.A., 1966*)

Secretary General of the U.N.O. The Secretary General is the chief executive of the United Nations Organisation. U. Thant (of Burma) is the present Secretary General. He has been holding this post since 1961. Other Secretaries General of the Body have been :

Mr. Trygve Lie, Norwegian statesman (1946-1953).

Mr. Dag Hammarskjöld (1953-1961), a former member of the Swedish Foreign Ministry. He was killed in an air crash while going on U.N. peace mission to Congo and was awarded the 1961 Nobel Peace Prize posthumously.

(*S.C.R.A., 1962 ; L.D.C., 1966*)

MAIN ORGANS OF THE UNITED NATIONS

General Assembly. The General Assembly consists of the total membership of the Organisation which stood at 127 in October, 1970. Every member State has one vote and can send a maximum of five representatives in the Assembly. The General Assembly meets once a year in regular session but special sessions can be convened at the request of the Security Council or by the majority of the members of the Organisation. A special emergency session within 24 hours of a request can also be called likewise.
(*S.C.R.A., 1965*)

The Assembly can consider and make recommendations on any problem affecting peace and security, except those which are already under consideration by the Security Council. It can also discuss and make recommendations on any question within the scope of the Charter or with regard to the functions and powers of any organ of the United Nations. It promotes International political co-operation, the realisation of human rights and fundamental freedoms for all and brings about international collaboration in economic, social, cultural, educational and health fields. It helps to settle international disputes between the nations and supervises the administration of the Trust Territories. It also elects ten non-permanent members of the Security Council, 18 members of the Economic and Social Council, those members of

the Trusteeship Council which are elected, joins with the Security Council in choosing the Judges of the International Court of Justice and, on recommendations of the Security Council, appoints the Secretary General. It approves the budget of the United Nations and its specialised agencies. In the event of lack of unanimity among the five permanent members of the Security Council, the General Assembly can itself take up the matter and can also sanction the use of armed force necessary for the maintenance or restoration of world peace and security. Most important questions of world peace and security, suspension, admission or expulsion of members etc. are decided by a two-thirds majority whereas simpler issues are decided by a simple majority. The President of the Assembly is elected for a year.

The work of the Assembly is divided into seven committees, on which all members have the right to be represented. The committees are : (i) Political and Security, (ii) Economic and Financial, (iii) Social, Humanitarian and Cultural, (iv) Trusteeship, (v) Administrative and Budgetary, (vi) Legal, and (vii) Special Political Committee.

Security Council. Considered to be the executive body of the U.N., the Security Council is primarily responsible for maintaining international peace and security. Any member nation or even a non-member nation and the Secretary General can bring a dispute or a threat to world peace to the notice of the Security Council. It remains in session all the year round and can be asked to meet at 24 hours' notice. It consists of five permanent members, *e.g.*, United States, Great Britain, U.S.S.R., France and China, and ten non-permanent members elected by the General Assembly for two years from among the member States. The non-permanent membership of the Security Council has been distributed as : Afro-Asian Nations : 5; East Europe : 1 ; Latin America : 2 ; West Europe and others : 2.

The non-permanent members for 1970 are Burundi, Colombia, Finland, Nepal, Nicaragua, Poland, Sierra Leone, Spain, Syria and Zambia.

(*S.C.R.A.*, 1962, 1965; *L.D.C.*, 1966)

The Council is charged with the responsibility to investigate any international dispute and recommend its resolution, to formulate plans for the regulation of armaments, to determine the existence of a threat and to apply economic and other sanctions to meet the aggression, to take military action against the aggressor and to recommend the admission of new members. It also recommends to the General Assembly the appointment of the Secretary General and joins with the General Assembly to elect the Judges of the International Court of Justice.

(*I.S.R.*, 1951; *M.C.*, 1958 ; *I.N.*, Dec., 1965; *Stenos.*, 1965)

Veto. The five permanent members of the Security Council possess veto power. A negative veto of a permanent member of the Council amounts to the exercise of veto power and the subject is automatically dropped. A vetoed resolution can, however, be got approved by the General Assembly by a two-thirds majority. Russia has applied veto on 105 occasions (including those when

resolutions on Kashmir and Goa were introduced), Britain has exercised it four times, France twice, Nationalist China once, but the USA never.

A resolution on all matters other than questions of procedure can be passed by an affirmative vote of nine members including the five permanent members. A member has to abstain from voting into a dispute to which he is a party. (*I.A.S., 1962; L.D.C., 1968*)

Economic and Social Council. The Council is composed of 18 members, 6 of which are elected every year by the General Assembly for a term of three years. The retiring members are eligible for re-election. The Council is charged with the responsibility of initiating studies, reports and recommendations on economic, social, cultural, educational, health and related matters, to promote human rights and fundamental freedoms etc. etc. Voting in the Council is by simple majority. Each member is entitled to one vote. The Council works through various functional commissions and committees. Its functions also include the supervision and guidance of the United Nations International Children's Emergency Fund (UNICEF).

To facilitate its working the Council has established the following Commissions :-

(i) Statistical Commission, (ii) Population Commission, (iii) Social Commission, (iv) Commission on Human Rights, (v) Commission on the Status of Women, (vi) Commission on Narcotic Drugs, (vii) Commission on International Commodity Trade, (viii) Sub Commission on Prevention of Discrimination and Protection of Minorities.

The following Regional Commissions have also been established:

1. Economic Commission for Europe (E.C.E.). 2. Economic Commission for Asia and the Far East (E.C.A.F.E.). 3. Economic Commission for Latin America (E.C.L.A.). 4. Economic Commission for Africa (E.C.A.). (*S.O., 1965*)

Trusteeship Council. The Trusteeship Council is composed of 14 members, making equal division between those who administer the Trust Territories and those who do not. The non-administering seven members include the non-administering permanent members of the Security Council and others, elected by the General Assembly for a period of three years. The Council is responsible for the supervision of the administration of Trust Territories, which were the mandated territories under the League of Nations. The Council endeavours to promote the social, cultural and educational uplift of the people of the Trust Territories and to prepare them gradually for the attainment of freedom.

International Court of Justice. The Court is the principal judicial body of the United Nations. It considers and decides such disputes as are referred to it by the member nations. The General Assembly can also refer any matter of legal importance to the Court for an advisory opinion. All members of the U.N.O. are *ipso facto* parties to the statute of the Court. The Court consists of 15

Judges, elected by the General Assembly and the Security Council, voting independently. The Judges are chosen on the basis of their qualifications and they serve for a term of nine years, being eligible for re-election. All matters are decided by the majority of the Judges present with nine constituting a quorum. In the event of a tie, the matter is decided by the casting vote of the President. *Headquarters*: The Hague (Netherlands). (S.O., 1965, I.N., 1966)

Secretariat. It is composed of the Secretary General, appointed by the General Assembly on the recommendations of the Security Council, and such staff that may be required to conduct the functions of the Organisation. The Secretary General is responsible for the general administration of the Secretariat, bringing to the attention and consideration of the Security Council any dispute or threat to international peace and security, for making annual and periodical reports on the working of the United Nations and for carrying out any special assignments given by the Security Council by means of a resolution. An international staff assists him in his work. He is not to receive orders from any government nor are the member nations allowed to influence or affect his independent working. He has two Under Secretaries working under him and assisting him on special political affairs. The Secretary General is the chief civil servant of the U.N.O. and holds considerable authority.

SUBSIDIARY AGENCIES OF THE U.N.O.

International Atomic Energy Agency (I.A.E.A.). It came into existence on 29 July, 1957. It is charged with the responsibility to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity of the members of the U.N.O. and to ensure that the aid, given through this agency, is not diverted to military purposes. It is composed of a General Conference, consisting of all members of the Agency, a Board of Governors and a staff, headed by the Director General. The Board of Governors consists of 23 members. It has its *headquarters* at Vienna.

International Labour Organisation (I.L.O.). Established in 1919, its constitution was adopted by the Treaty of Versailles. It is responsible for promoting social justice, improvement in labour conditions, living standards and economic and social stability. To achieve these objectives, the I.L.O. brings together government, labour and management to recommend international minimum standards with regard to wages, hours of work, minimum age for employment, conditions of work, workmen's social security programmes, industrial safety and freedom of association. The Organisation grants extensive technical assistance to governments and publishes periodicals, studies and surveys on industrial and labour questions. (Assst. Gde., 1968)

The Organisational Set-up. The I.L.O. is composed of a General Conference, a Governing Body and the Secretariat. The General Conference is composed of national delegations, each comprising four delegates—two government delegates, assisted by one delegate representing the labour and one representing the management. Its function is to formulate international social standards in

the form of conventions. The Governing Body consists of 40 members—20 members representing the governments and 10 each representing the labour and the management. Its function includes supervision of the work of the International Labour Office or Secretariat and its various committees. The Secretariat is the working hub of the organisation which collects and distributes information, plans and launches investigations and studies, and provides machinery to assist in the implementation of I.L.O. programmes. Its *headquarters* is at Geneva, Switzerland.

Food and Agriculture Organisation (F.A.O.). Established on 16 October, 1945, its objectives are enshrined in the assurance that all men may live their lives in freedom from want. Its main purposes are: (i) to raise levels of nutrition and standards of living; (ii) to help efficient production and distribution of food and agricultural products; (iii) to better the conditions of rurals; and (iv) to make efforts towards the expansion of the world economy.

Its functions include the development of basic soil and water resources and creation of a stable international market for the agricultural products. It helps in the global exchange of new plants and advanced techniques, combats epidemics of animal and plant diseases, provides assistance in nutrition and food management, soil erosion control, reforestation, irrigation engineering, storage of foodgrains and production of fertilizers.

(*Asstt. Gde., Dec., 1965*)

The Organisation is composed of a Conference, a Council and a Director General with his international staff to implement the Body's plans. The Conference is composed of one representative from each of the member countries. The Conference meets annually and formulates the general policy and approves the budget. The council consists of 25 member nations, elected by the Conference, and is responsible to the Conference for the Body's working. The Council supervises and directs the co-ordination of production, distribution and consumption of food and agricultural products. The Director General and his staff are, however, the real workers who try to produce results. *Headquarters: Rome, Italy.*

(*Asstt. Gde., 1965*)

United Nations Educational, Scientific and Cultural Organisation (U.N.E.S.C.O.). Formed on 4 November, 1946, the U.N.E.S.C.O. aims at promoting peace and security by bringing about collaboration among the nations through education, science and culture and furthering universal respect for justice and rule of law. It also helps to promote human rights, and fundamental freedoms without distinction of race, sex, language or religion. It collaborates in bringing about better understanding between people by means of mass communication and spread of culture and encourages the teaching and understanding of science. Its function is to unite the efforts of scientists, artists and educators with a view to shaping a culturally better world. It also arranges the exchange and provision of scientific and educational experts, on request, to member States.

Its set-up comprises a General Conference, an Executive Board and a Secretariat. The General Conference, composed of all the representatives of member countries, meets biennially to decide the policy and the programme. The Executive Board consists of 24 members elected by the General Conference and is responsible to the Conference for the working of the Organisation. The Secretariat consists of a Director General and an international staff. Its *headquarters* is at Paris, France.

(S.O., 1965; Clks. Gde., 1968)

United Nations International Children's Emergency Fund (U.N.I.C.E.F.). One of the special bodies of the Economic and Social Council, the U.N.I.C.E.F. was established by the General Assembly on 11 December, 1946 to aid child victims of war and to promote their general condition. In December, 1950, its functions were enlarged to meet the long-range needs of the children in under-developed countries. In 1953, its life was extended without any time limit. U.N.I.C.E.F. helps hundreds of countries and territories of Asia, Africa, Europe and Latin America by implementing its child and maternal-care programmes. The programmes also include eradication of malaria, tuberculosis, trachoma and yaws, training of midwives and nurses for the rural areas, child-feeding and milk-conservation schemes and provision of relief work and aid in times of flood, earthquake or other disasters affecting children and mothers.

The organisational set-up of U.N.I.C.E.F. is composed of an Executive Board, consisting of 30 representatives of the member nations, and an Executive Director who administers the policies, determines the programmes and allocates funds. The U.N.I.C.E.F. depends for its financial resources on voluntary contributions, both government and private. It has its *headquarters* at New York.

World Health Organisation (W.H.O.). This Organisation came into being on 7 April, 1948. Its chief purpose is the attainment by all peoples of the highest level of health. It offers two kinds of services—advisory and technical—which include training of personnel on subjects like malaria, tuberculosis, venereal diseases, maternal and child health, nutrition and environmental sanitation, biological standardisation, collection and dissemination of epidemiological intelligence and special international research projects.

W.H.O. consists of a World Health Assembly, representing all members and meeting annually as the policy making body of the Organisation, an Executive Board of representatives of 18 member states and a Secretariat, headed by a Director General, and technical and administrative staff. It has its *headquarters* at Geneva, Switzerland.

(I.N., 1966; Income Tax Inspectors, 1966)

International Bank for Reconstruction and Development (I.B.R.D.). Established in December, 1945, the Bank is designed to assist in the development of member countries by facilitating investment of capital for productive purposes, to promote private foreign investment and provide loans out of its own capital and resources. It effects the balanced growth of international trade and maintains equilibrium in balances of payments by encouraging

international investment. Loans are granted to the member countries or to business enterprises. The Bank may also guarantee loans by private investors.

Its set-up consists of Board of Governors, The Executive Directors and a President with an international staff working under him. The Board of Governors is composed of one Governor and one alternate appointed by each member country. All powers are vested in the Board and it meets once a year. The Executive Directors are 18 in number—five representing the members having largest number of shares and 13 elected by the Governors of the remaining members. The President of the Bank is elected by the Executive Directors and is the chief of the operating staff of the Bank, responsible for the conduct of the Bank's business and its organisation. He has three Vice Presidents under him. Bank's *headquarters* is at Washington, U.S.A. (*I.T. Insp.*, 1966; *Asstt. Gde.*, 1967)

International Development Association (I.D.A.). Formed in September, 1960 as a new lending agency, its membership is open to all members of the World Bank. It is an affiliate of the World Bank and advances loans on more flexible terms which bear less heavily on the balance of payments than the terms for conventional loans. World Bank's Board of Governors and Executive Directors also hold the similar positions in the IDA and the President of the Bank is the *ex officio* President of the IDA. It has its *headquarters* at Washington.

International Finance Corporation (I.F.C.). IFC was established in July, 1956 and is closely associated with the World Bank, though it is a separate entity. It is designed to further economic development in the member countries by advancing loans and encouraging growth of productive private enterprise without government guarantees of loan repayment. It also promotes investment of private capital, both foreign and domestic. The Corporation raises its funds by selling bonds. The Governors of the International Bank act as the Board of Governors of IFC. Its Board of Directors is composed *ex officio* of the Executive Directors of the World Bank. The Bank President is the *ex officio* Chairman of Board of Directors of the IFC. The President of the IFC is selected on the recommendation of the Chairman and has under him an operating staff. Its *headquarters* is at Washington.

International Monetary Fund (I.M.F.). Formed in December, 1945, the IMF promotes international monetary cooperation, expansion of international trade, exchange stability and avoids competitive exchange depreciations. It also assists to provide a multilateral system of payments between members and eliminates restrictions on foreign exchange which hamper world trade. It sells foreign exchange or gold to members and advises governments on anti-inflationary measures, investment and bank credit, government spending and taxation. It also recommends various fiscal and monetary measures to obviate foreign exchange restrictions.

It has a 110-member Board of Governors (consisting of all the member nations), a 20-member Board of Executive Directors and a Managing Director. The last one is elected by the Executive

Directors. Of the 20 Executive Directors, 5 are permanent and 15 are elected every two years. It has its *headquarters* at Washington (S.O., 1965)

International Civil Aviation Organisation (I.C.A.O.). ICAO was established in April, 1947 to study problems of international civil aviation and devise international standards therefor. It promotes the use of new technical methods and equipment and encourages the employment of safety measures and uniform regulations. It devises international air law conventions and concerns itself with many of the economic aspects of international air transport. India has been elected a member of the ICAO's Council, the governing body of the Organisation. *Headquarters* : Montreal, Canada.

Universal Postal Union (U.P.U.). The Union was formed in 1875 to establish a single postal territory of all members of the Union for facilitating reciprocal exchange of correspondence and improvement in international postal services. Every member agrees to transmit mail of other members by fastest means. *Headquarters* : Switzerland.

International Telecommunication Union (I.T.U.). The Union was formed at Paris in 1865 as the International Telegraph Union and later changed into International Telecommunication Union in 1934. It was recognised in 1947. It promotes international cooperation by improving telecommunications of all kinds, by devising regulations for telegraph, telephone and radio services and by development of technical facilities and their efficient operation. It allocates and registers radio frequency assignments. *Headquarters* : Geneva, Switzerland.

World Meteorological Organisation (W.M.O.). WMO came into existence in March, 1950. It promotes the establishment, maintenance and coordination of meteorological services as well as exchange of weather information, application of meteorology to aviation, shipping and agriculture. Its set-up consists of the World Meteorological Congress, the Executive Committee, 6 Regional Meteorological Associations (located in Africa, Asia, South, North and Central America, Europe and South West Pacific) and a Secretariat, headed by a Secretary General. *Headquarters* : Geneva, Switzerland.

Inter-Governmental Maritime Consultative Organisation (I.M.C.O.). Though the Convention for IMCO was drawn up as early as 1948, it actually came into existence in March, 1958. The Organisation aims at removal of discriminatory actions and unnecessary maritime restrictions imposed by the governments and restrictive practices enforced by the shipping companies. It also arranges exchange of shipping information and drafting of conventions and agreements to regulate maritime services. It consists of an Assembly (of all members), a Maritime Safety Committee and a Secretariat, run by a Secretary General. It has its *headquarters* at London.

International Trade Organisation—General Agreement on Tariffs and Trade (ITO-GATT). To avoid the recurrence of international depression of 1930's and to do away with the various kinds of artificial barriers to trade, a draft charter for an International

Trade Organisation was prepared in 1948 but some important trading nations failed to ratify it. In the meantime, the GATT was evolved to stabilize tariffs among its 37 member countries. Through the efforts of this Organisation, tariffs, on various items of trade have either been reduced or frozen. The unnecessary impositions are regularly brought to the notice of the Body which has proved effective in having remedial action initiated. It has its *headquarters* at Geneva.

Universal Declaration of Human Rights. In December, 1948, the United Nations General Assembly adopted the Universal Declaration of Human Rights earlier prepared by the Commission on Human Rights. The rights that the Declaration upheld were those of life, liberty and security of person, freedom from arbitrary arrest, detention or exile, freedom of thought, conscience and religion, freedom of assembly and association and right to work and social security. The Declaration directed all nations "to secure their universal and effective recognition and observance".

The Commission was asked to draft a Covenant on Human Rights, which on ratification by the respective countries, would legally become binding upon the member nations. The progress of the Commission was greatly hampered by the differences among nations on some vital issues but a draft Covenant on Economic, Social and Cultural Rights and a draft Covenant on Civil and Political Rights were finalized by 1954 and submitted to the General Assembly for consideration. The General Assembly also expressed its indignation on the treatment of people of Indian origin in South Africa. In 1962, the General Assembly established a special committee on *apartheid* besides recommending the member States to break diplomatic relations with South Africa and to apply economic sanctions against her.

25TH GENERAL ASSEMBLY SESSION

On becoming 25 years old on 24 October, 1970*, the United Nations celebrated its Silver Jubilee which was attended by a number of Heads of States and Governments. Some of the world celebrities who participated in the celebrations were President Richard Nixon (USA), Prime Minister Edward Heath (Britain), Prime Minister Indira Gandhi (India), President Yahya Khan (Pakistan) and President Kenneth Kaunda (Zambia). Having started with 54 members in 1945, the United Nations had in November, 1970, 127 members on its rolls. According to a survey, 80 per cent of the UN staff and resources were utilized on social and economic development.

Achievements of the UNO. Under the prevailing international conditions, it would be rather too much to expect spectacular achievements from a world body like UNO which has hardly any power or force of its own. Moreover, 25 years are perhaps a very small span in the life of a great organization as this. Some

* The UN Charter was signed on 25 June, 1945 but the Organization formally came into existence on 24 October, 1945.

members, especially the super powers, have, in the past, flouted the directives of the World Body, entered into regional security pacts much against the spirit of the Body, promoted isolationism and ignited local wars. The UNO has failed to condemn Pakistani aggression in Kashmir and has shirked to evolve a just solution of the issue. It has miserably failed in West Asia where three local wars have been fought since the creation of Israel in 1948. The fourth one may be round the corner if the two contending parties ultimately attempt to decide the dispute by force of arms. It has failed to unify Korea and, above all, it has failed to banish war or a threat of war. So much for the debit side.

On the credit side, it is impossible not to appreciate the UN efforts to avert world war twice—firstly at the height of Korean fighting in 1951 when General MacArthur had suggested atom-bombing of the Chinese and secondly during the Cuban crisis in 1962 when one imprudent step by USA or USSR would have triggered off a nuclear holocaust. Effective UN intervention brought peace to Indonesia (1949 and 1960), UAR (Suez crisis : 1956), Lebanon (1958), Congo (1962-63), North Borneo and Sarawak (1963) and Cyprus (1967). It would also not be fair to denigrate its efforts to bring peace to the Indian Sub Continent. Kashmir fighting in 1947-48 and Indo-Pak conflict in 1965 had ended on the basis of cease-fire agreements brought about by the good offices of the UNO. The Partial Test Ban Treaty of 1963 and the Nuclear Non-Proliferation Treaty of 1968 are a sufficient testimony to the usefulness of this World Organization.

President of the General Assembly. Mr. Edvard Hambro of Norway was elected President of the General Assembly for 1970-71.

CHAPTER 14

SPORTS

Q. With which games are the following associated ?

- (i) Premjit Lal (ii) Bishen Singh Bedi (iii) Usha Sunderraj
(iv) Thomas Cup (v) Checkmate. (*Indian Forest Service, 1970*)

Ans. (i) Tennis (ii) Cricket (iii) Table Tennis (iv) Badminton
(v) Chess.

Q. Answer the following : -

(a) (i) Name the captains of New Zealand and Australian teams in the last cricket test matches played in India in 1969. (ii) Who won the rubber in the two series ?

(b) (i) What game is associated with Davis Cup ? (ii) Name the champion and runner-up of the last game. (iii) Who is the American Negro tennis player who was refused visa by South Africa ?

(c) (i) Who is the holder of the world heavyweight boxing title ? (ii) Who held the title before him ? (*I.N. July, 1970*)

Ans. (a) (i) Graham Dowling (New Zealand) and Bill Lawry (Australia). (ii) The rubber for the Australia-India series was won by Australia; in the India-New Zealand series, the rubber was shared.

(b) (i) Tennis (ii) USA and Romania respectively (iii) Arthur Ashe.

(c) (i) Joe Frazier (1969); (ii) Jimmy Ellis (1968).

Q. With what are the following associated ?

- (i) Agha Khan Cup (ii) Ashes (iii) Derby (iv) Knock out
(v) Dummy (vi) Stalemate (vii) Lords (viii) Epsom (ix) King Kong
(x) Rod Laver. (*Cent. Info. Ser., 1970*)

Ans. (i) Hockey; played at Bombay (ii) Cricket (iii) Horse racing (iv) Boxing (v) Bridge (vi) Chess (vii) Cricket (viii) Horse race (ix) Wrestling (x) Lawn Tennis.

Q. With what games are the following Trophies associated ?

- (i) Nehru Trophy (ii) Rohinton Baria Trophy (iii) Santosh Trophy (iv) Davis Cup ? (*Stenographers, 1970*)

Ans. (i) Hockey (ii) Cricket (Inter University Championship)
(iii) Football (iv) Lawn Tennis.

Q. (a) With what games/sports are the following associated mainly ?

- (i) Davis Cup (ii) Ranji Trophy (iii) Santosh Trophy (iv) Knock out (v) Dummy (vi) Checkmate (vii) Cover point (viii) Free kick (ix) Deuce (x) punter.

(b) In what sports has each of the following distinguished himself mainly ?

- (i) Frank Worrell (ii) Prithipal Singh (iii) Dinesh Khanna (iv) Michael Ferreira, and (v) Mihir Sen. (*N.D.A., May, 1970*)

Ans. (a) (i) Lawn Tennis (ii) Cricket (iii) Football (iv) Boxing (v) Bridge (vi) Chess (vii) Cricket (viii) Football (ix) Tennis (x) Horse racing.

(b) (i) Cricket (ii) Hockey (iii) Badminton (iv) Billiards, and (v) Long-distance ocean swimming

Q. (a) With what games or sports are the following associated ?

(i) Petrosin (ii) C.K. Nayudu (iii) Dhyanchand (iv) Wilson Jones (v) Nandu Natekar (vi) Premjitalal (vii) Don Bradman (viii) Maharaja Karni Singh (ix) Chandgiram (x) Chuni Goswami.

(b) With what games are the following associated ?

(i) Durand Cup (ii) Aga Khan Cup (iii) Wimbledon (iv) Ranji Trophy (v) Rover's Cup. (I.M.A., May, 1970)

Ans. (a) (i) Chess (ii) Cricket (iii) Hockey (iv) Billiards (v) Badminton (vi) Tennis (vii) Cricket (viii) Rifle shooting (clay pigeon) (ix) Wrestling (x) Football.

(b) (i) Football (ii) Hockey (iii) Tennis (iv) Cricket (v) Football.

Q. With what games do you associate the following ?

(i) Ashes (ii) Cue (iii) Bully (iv) Links.

(Engg. Ser., 1969)

Ans. (i) Cricket (ii) Billiards (iii) Hockey (iv) Golf.

Q. With what games/sports are the following associated ?

(i) Chuni Goswami (ii) Mohender Lal (iii) Vulnerable (iv) Ramanujam Cup. (Asstt. Gde., 1969)

Ans. (i) Football (ii) Hockey (iii) Bridge (iv) Table Tennis.

Q. (a) (i) When and where were the last cricket test matches between England and West Indies played ? (ii) Who were the Captains of the two teams ? (iii) Who won the rubber ?

(b) (i) Name the country which defeated India in the Davis Cup inter-zone sem-final. (ii) Who were the Indian players there ?

(Indian Navy, Dec. 1969)

Ans. (a) (i) In 1969 in England (ii) R. Illingworth (England) and G. Sobers (West Indies). (iii) England.

(b) (i) Romania (ii) R. Krishnan, Premjit Lal, Jaideep Mukherjea and S.P. Mishra.

Q. What do the following terms in sports stand for ? (2 to 3 lines each.) (Stenographers, 1969)

(i) Marathon Race (ii) Deuce (iii) Hat-trick (iv) Rubber (v) Sticks.

Ans. (i) The long-distance race included (since 1896) as an event in the Olympic games. It covers a distance of 26 miles and 385 yards. The name is derived from the "Battle of Marathon", when a runner was employed to run about 22 miles to Athens to announce the Greek victory. (ii) The term is used in Tennis and Table Tennis. It is an indication that each side has scored 40 points (in Tennis) or 20 points (in Table Tennis) at the game point. (iii) to (v) See under Sports Terms.

Q. With which game or sport are the following associated ?

(i) Chandgi Ram (ii) Nandu Natekar (iii) Raja Karni Singh (iv) Prithipal Singh, and (v) Jaideep Mukherjea.

(Stenographers, 1969)

Ans. (i) Wrestling (ii) Badminton (iii) Rifle shooting (clay pigeon) (iv) Hockey (v) Lawn Tennis.

Q. Mention the game or sport with which each of the following is associated ?

(i) Dhyanchand (ii) Ramanathan Krishnan (iii) Vijay Merchant (iv) Rod Laver (v) Wilson Jones (vi) Chuni Goswami (vii) Nandu Natekar (viii) Vera Caslavskya (ix) Rao Raja Hanut Singh, and (x) Maharaja Karni Singh. (S.C.R.A., 1969)

Ans. (i) Hockey (ii) Lawn Tennis (iii) Cricket (iv) Lawn Tennis (v) Billiards (vi) Football (vii) Badminton (viii) Gymnastics (ix) Polo (x) Rifle shooting (clay pigeon).

Q. Answer the following :-

(i) What are Olympic Games ? (ii) Where were they held last ? (iii) who was the Captain of the Indian Hockey team at the last Olympic ? (iv) Against whom did India lose in Hockey at the last Olympic ? (v) What is Arjun Award ? (vi) What is M.C.C. ? (vii) What is Ranji Trophy ? (viii) What is India's National Bird ? (ix) What is Wimbledon ? (x) Name the highest Indian Award.

(Cent. Info. Ser., 1969)

Ans. (i) The games that are played internationally after every four years and which date back to 776 B.C., when they were played at Olympia, Greece. Hence the name Olympic Games. (ii) Mexico (iii) Prithipal Singh (iv) Australia (v) Highest sports award made annually to the "Sportsmen of the Year" for their outstanding contribution to the game during that year. (vi) Marylebone Cricket Club, the governing body of the English cricket (vii) Trophy for inter-State (or Zone) cricket matches played in India. (viii) Peacock (ix) The Tennis headquarters of England where international Tennis matches are held for championships of the same name. (x) Bharat Ratna.

Q. With what games are the following terms associated ?

(i) Googly (ii) Sticks (iii) Deuce (iv) Grand slam (v) Gully.

(Lagg. Ser., 1969)

Ans. (i) Cricket (ii) Hockey (iii) Tennis, Table Tennis (iv) Bridge (v) Cricket.

Q. With what games or sports are the following associated mainly ?

(i) Ascot race (ii) Regattas (iii) Leg break (iv) I.F.A. (v) Pitch (vi) Naresh Kumar (vii) Dinesh Khanna (viii) Ted Dexter (ix) Roy Emerson. (I.M.A., Apr., 1969)

Ans. (i) Horse races (ii) Boat races (iii) Cricket (iv) Football (v) Cricket (vi) Tennis (vii) Badminton (viii) Cricket (ix) Lawn Tennis.

Q. With what games are the following associated ?

(i) Maharaja of Jaipur (ii) Maharaja of Bikaner (iii) Joe Louis (iv) Leaders Club (v) Maiden Over (vi) Deuce (vii) Checkmate.

(N.D.A., May, 1969)

Ans. (i) Polo (ii) Rifle shooting (clay pigeon) (iii) Boxing (iv) Football (v) Cricket (vi) Tennis, Table Tennis (vii) Chess:

Q. Answer the following :—

(i) Where were the last Olympic Games held ? (ii) Who were the Champions in Hockey ? (iii) Who were the runners-up ? (iv) Where were the Fourth Test Matches between West Indies and Australia played? (v) Name the captains of the two teams. (vi) Who won the All India Inter-University Hockey Championship for Women? (vii) Name the games with which the following trophies are associated : Davis Cup ; Ryder Cup and F.A. Cup.

(I.N., July, 1969)

Ans. (i) Mexico (ii) Pakistan (iii) Australia (iv) Australia (v) Gary Sobers (West Indies) and Bill Lawry (Australia). (vi) Punjab (vii) Lawn Tennis : Golf and Football.

Q. Describe briefly the following games :

(i) Golf (ii) Polo (iii) Ping Pong (iv) Billiards, and (v) Checkers.

(I.F.S., 1967)

Ans. (i) Originated in Scotland in the 15th Century, it is a game played with specially made clubs and balls on an outdoor course called links usually more than 6,000 yds around and divided into 18 holes of varying length. The aim of each player is to drive his balls into these holes in fewer strokes than his opponent's. (ii) Originated in Iran, the game is played on horseback by teams of four on a field 300 yds. long and 200 yds. wide. The game is played with long-handled mallets with which the ball is pushed into the goal post, defended by the rival team. (iii) Also called Table Tennis, the game is played on a table measuring 9 ft. by 5 ft. with a small celluloid ball and light wooden racquets. Each player serves five times in succession. (iv) An indoor game, played by two or four persons, with cue, the tapered, leather-tipped stick and three balls, on a table, 12 ft. long and 6 ft. wide and having six pockets. A player continues to play until he fails to score, his total being called a-break. (v) Called Draughts in England, the game is played by two persons with 24 pieces (called draughtsmen) on a board, divided into 64 squares. The object of the game is to move the pieces forward to capture those of the opponent and thereby gradually capture and occupy the opponent's territory.

SPORTS A SHORT HISTORICAL BACKGROUND

In the present times, sports are a highly organised effort, involving considerable planning, training and expense. It has been recognised that if games are left to their own, the present athletic standards and the excellent competitive performances will not be possible. Evidently, the major world sports events have been largely won by those countries which, on account of their developed nature of economies, can afford huge private and public spendings on sports and have broad-based, highly organised and efficiently-run integrated programmes of physical education in schools and colleges.

The Olympic Games. The history of organised games dates back to 776 B.C. when athletic contests, named as the Olympic Games, were held at Olympia, Greece, every four years. Before participation in the games, the contestants were rigorously tested

and trained for about a year. Open to competitors from all parts of Greece, the games included chariot racing, horses racing, running, wrestling, boxing etc. etc. The games, however, ceased to be played about 393 A.D.

Some 1500 years later, the athletic contests were revived at Athens in 1896. Baron de Coubertin, a Frenchman, followed it up by organising an international sports meet at London in 1908. Since their revival, these games have been restaged every four years except for the breaks occasioned by the two World Wars. Women made their first appearance in the events in 1912. The Olympic meets comprise the field games such as boxing, baseball, canoeing, cycling, decathlon, fencing, football, gymnastics, hockey, pentathlon, rowing, swimming, weight-lifting, wrestling and yachting. All countries having national sports associations, affiliated with the International Olympic Association, can participate in the contests. The games are held at different places throughout the world, subject to availability there of necessary sports facilities. The 1968 Olympic games were held at Mexico in October and the 1972 games—the Smiling Olympics—will be held at Munich.

Asian Games. Asian Games, popularly known as Asiad, were organised by some Asian countries including India, China, Indonesia and Japan to foster a sense of keener competition and sports-consciousness among the Asian players and also to help them stand up to the players of the developed western nations. The Sixth Asian Games were to be held at Bangkok in 1970. Thailand, it may be recalled, is hosting the Games for the second time in succession, the 1966 Games having also been held there. South Korea, which was to host the 1970 Games, had earlier declined to do so on grounds of lack of funds. The earlier Asian Games were held at New Delhi (1951), Manila (1954), Tokyo (1958) and Jakarta (1962).

SPORTS IN INDIA

India, a comparatively under-developed country, does not boast of a very well-organised sports complex to help and train the players for the national and international events. However, after independence, significant strides have been made to put the sports on a sound footing. These efforts continue with added vigour and keener interest. The All India Sports Council advises the Government of India and the Sports Federation in the matter of promotion of sports and execution of sports programmes. All major sports have their own national, zonal and, in some cases, district or local associations that have been instrumental in popularising these games.

While the games are, by and large, organised by the numerous national and regional sports associations, the Government of India have offered encouragement in the various directions by way of : (i) setting up of All India Sports Council and Sports Councils in all States and Union Territories ; (ii) financing purchase of sports equipment ; (iii) sending Indian players abroad and inviting the foreign teams to play in India ; (iv) organising and financing

national championships ; and (v) financing the construction of sports stadia in different States.

The National Institute of Sports was established at Patiala in 1961 which superseded the Rajkumari Amrit Kaur Sports Coaching Scheme of 1953. The Patiala Institute has already trained more than 1,100 coaches. It conducts courses of instruction in all games under the guidance of prominent foreign experts. Its special function is to advise, plan and organise sports on a firmer and sounder footing in schools and colleges. Under the National Coaching Scheme, the Institute has already set up 35 regional coaching centres in the various States and has evolved a comprehensive training scheme. The Union Government is planning to set up an all India combined body for sports and physical education with a view to improving the standard of sports and games in the country. This has been necessitated by the poor performance of Indian players in the recent international meets.

Arjuna Awards. With a view to giving inducement to the players to achieve better standards and to create in them a sense of national pride, the Government of India instituted the Arjuna Awards in 1961. The Arjuna Awards to the "Sportsmen of the Year" are made on the basis of outstanding contribution for enhancing the glory of the game during the year.

FAMOUS CUPS AND TROPHIES

| <i>Cup/Trophy</i> | <i>Game with which associated</i> |
|------------------------------------|--|
| Aga Khan Cup | Hockey. Played at Bombay. |
| America's Cup | International Yacht Race |
| Ashes | Cricket. It is in connexion with only those matches, that are played between Australia and the United Kingdom. |
| Beighton Cup | Hockey. Played at Calcutta. |
| Canada Cup (Now renamed World Cup) | Golf (World Championship) |
| Colombo Cup | Football (Burma, Ceylon, India and Pakistan). |
| Corbillion Cup | World Table Tennis (For women). |
| Davis Cup | Lawn Tennis (International) |
| Derby | Horse Racing (United Kingdom). |
| Dhyan Chand Trophy | Hockey (India) |
| Durand Cup | Football (India). Played at Delhi. |
| Ezra Cup | Polo (India) |
| F.A. Cup | Football (India). |
| Grand National | Horse Steeple Chase Race (U.K.) |
| I.F.A. Shield | Football (India). Played at Calcutta. |
| Jaylaxmi Cup | National Table Tennis Championship for Women (India). |
| King's Cup | Air Races (United Kingdom). |
| Lady Rattan Tata Trophy | Hockey. For women (India). |
| Maulana Azad Trophy | Inter-University Sports and Athletics |
| Mohan Singh Trophy | Volleyball (New Delhi) |

| | |
|--------------------------|---|
| Nehru Trophy | Hockey (India) |
| Obaidullah Khan Gold Cup | Hockey (Bhopal) |
| Prince of Wales Cup | Golf (United Kingdom) |
| Ramanujam Cup | Table Tennis |
| Rangaswami Cup | National Hockey Championship (India) |
| Ranji Trophy | Cricket (India) |
| Rohinton Baria Trophy | Inter-University Cricket Championship. (India) |
| Rovers Cup | Football (India) |
| Ryder Cup | Golf (United Kingdom) |
| Santosh Trophy | National Football Championship (India) |
| Stevens Cup | Tennis (USA) |
| Swaythling Cup | World Table Tennis (Men) |
| Subroto Cup | Inter-School Football (India) |
| Thomas Cup | Badminton (World Championship) |
| Uber Cup | Badminton (Women's International). |
| Walker Cup | Golf |
| Wightman Cup | Lawn Tennis (Women of America and United Kingdom) |
| Wellington Trophy | Rowing (India) |

SOME IMPORTANT SPORTS TERMS AND THEIR GAME ASSOCIATIONS

| <i>Sports Term</i> | <i>Game</i> | <i>Sports Term</i> | <i>Game</i> |
|--------------------|-------------------------------|--------------------|------------------------------------|
| Bully | Hockey | Gambit | Chess |
| Backboards | Basketball | Goal Keeper | Hockey and Football |
| Bunting | Baseball | Googly | Cricket |
| Caddie | Golf | Grand Slam | Bridge |
| Cannons | Billiards | Gully | Cricket |
| Checkmate | Chess | Half Volley | Tennis |
| Chukker | Polo | Hat Trick | Cricket, Football and Hockey |
| Corner | Football & Hockey | Hook | Boxing |
| Corner Kick | Football | Jab | Boxing |
| Coxswain | Rowing | Jigger | Billiards |
| Crease | Cricket | Jockey | Horse Racing |
| Cue | Billiards | Knock-out | Boxing |
| Deuce | Tennis | l.b.w | Cricket |
| Diamond | Baseball | Leg-bye | Cricket |
| Double Fault | Tennis | Let | Badminton |
| Dribble | Basketball, Hockey and Soccer | Little Slam | Bridge |
| Drop | Badminton | Links | Golf |
| Duck | Cricket | Love | Badminton, Tennis and Table Tennis |
| Dummy | Bridge | Love All | Volleyball |
| Fault | Tennis | Maiden Over | Cricket |
| Finesse | Bridge | | |
| Four Hearts | Bridge | | |

| | | | |
|--------------|-----------|--------------|---------|
| Mallet | Polo | Snookered | Snooker |
| No Ball | Cricket | Stalemate | Chess |
| No Trump | Bridge | Sticks | Hockey |
| Offside | Football, | Stumped | Cricket |
| | Hockey | Stymie | Golf |
| Penalty kick | Football | Tee | Golf |
| Pitcher | Baseball | Tricks | Bridge |
| Pot | Billiards | Trump | Bridge |
| Punch | Boxing | Volley | Tennis |
| Smash | Badminton | Vulnerable | Bridge |
| | | Welterweight | Boxing |

SOME IMPORTANT SPORTSMEN AND THEIR GAME ASSOCIATIONS

| <i>Sportsman</i> | <i>Game</i> | <i>Sportsman</i> | <i>Game</i> |
|------------------|--------------|------------------|----------------|
| Althea Gibson | Tennis | Gentle | Hockey |
| Arati Saha | Swimming | Ghose, A.L. | Golf |
| Ashe, Arthur | Tennis | Hamida Bano | Wrestling |
| Ashok Malik | Golf | Haneef | Cricket |
| Balbir Singh | Hockey | Harbans Singh | Wrestling |
| Bannerji, P.K. | Football | Harbinder Singh | Hockey |
| Bapu Nadkarni | Cricket | Harnek Singh | Running |
| Bedi, B.S. | Cricket | Hashman, Judy | Badminton |
| Benaud, R. | Cricket | Hazare, V. | Cricket |
| Bhandari | Table Tennis | Henry Cotton | Golf |
| Bharat Ram | Golf | Huang, Tan Aik | Badminton |
| Borde, Chandu | Cricket | Hutton, Len | Cricket |
| Bradman | Cricket | Jack Hobbs | Cricket |
| Brojan Dass | Swimming | Jaideep | Tennis |
| Budding, Ingo | Tennis | Mukherjea | |
| Bungert, William | Tennis | Jarnail Singh | Football |
| | | Jayant Vora | Table Tennis |
| Cassius Clay | Boxing | Jim Clark | Car racing |
| Chandgi Ram | Wrestling | Joe Louis | Boxing |
| Charanjit Singh | Hockey | Karni Singh, M. | Rifle shooting |
| Chuni Goswami | Football | Ken Rosewall | Tennis |
| Cladius | Hockey | King Kong | Wrestling |
| (Miss) Connolly | Tennis | Koch, Thomas | Tennis |
| Dara Singh | Wrestling | Krishnan, R. | Tennis |
| Dhyan Chand | Hockey | Larsen B. | Swimming |
| Dinesh Khanna | Badminton | Laxman | Hockey |
| Diwan, G. | Table Tennis | Lehiro Ogimura | Table Tennis |
| Dolly Nazir | Swimming | Malik, A.S.&I.S. | Golf |
| Drobney | Tennis | Manjrekar, | Cricket |
| Durani | Cricket | Vijaya | |
| Emerson, Roy | Tennis | Mankad | Cricket |
| Erland Kops | Badminton | Manna, S. | Football |
| Flash Gordon | Wrestling | Manuel Santana | Lawn Tennis |

| | | | |
|-----------------|--------------|------------------|----------------|
| Margaret Smith | Tennis | Petrosin | Chess |
| May, P. | Cricket | Premjit Lal | Tennis |
| Merchant, V. | Cricket | Prithipal Singh. | Hockey |
| Metreveli, Alex | Tennis | Pushpa Athvale | Mountaineering |
| Mewa Lal | Football | | |
| Michel Jazy | Racing | Ramadhin | Cricket |
| Mihir Sen | Swimming | Rod Laver | Tennis |
| Milkha Singh | Racing | Seth, T.N. | Badminton |
| Mohinder Lal | Hockey | Shirley Fry | Tennis |
| Mukherjee, Rupa | Table Tennis | Sonny Liston | Boxing |
| Nandu Natekar | Badminton | Ted Dexter | Cricket |
| Narash Khanna | Tennis | Tanks, T | Table Tennis |
| Nayudu, C.K. | Cricket | Udham Singh | Hockey |
| Noriko Takagi | Badminton | Umrigar | Cricket |
| Padam Bahadur | Boxing | Urmila Thapar | Tennis |
| Mall | | Wilson Jones | Billiards |
| Pataudi, Nawab | Cricket | Woong Pong | Badminton |
| of | | Worrell | Cricket |

PLACES ASSOCIATED WITH SPORTS

| | |
|-----------------------|--|
| Aintree | Grand National Horse Race (United Kingdom) |
| Blackheath | Rugby Football (United Kingdom) |
| Chepauk | Cricket (Madras, India) |
| Doncaster | Horse Race (United Kingdom) |
| Eden Gardens | Cricket (Calcutta, India) |
| Epsom | Derby Horse Race (United Kingdom) |
| Ferozeshah Kotla | Cricket (Delhi, India) |
| Green Park | Cricket (Kanpur, India) |
| Henley-on-Thames | Henley Royal Regatta (Annual Boat Race) (U.K.) |
| Hurlingham | Polo (United Kingdom) |
| Lords, Oval and Leeds | Cricket (United Kingdom) |
| Putney | Boat Rowing (United Kingdom) |
| Twickenham | Rugby Football (United Kingdom) |
| Wimbledon | Lawn Tennis (United Kingdom) |
| Wembley | Association Football (U.K.) |

MEASUREMENTS OF SOME SPORTS FIELDS

| | |
|---------------------------------|---|
| Badminton Court | 20 ft. \times 44 ft. (doubles) 17 ft. \times 44 ft. (singles) |
| Baseball | The distance : between each base - 90 ft. along the diagonals - 127 ft. |
| Cricket | Length of the wicket pitch - 22 yds. |
| Derby Course | 1½ miles (2.4 kilometres) |
| Football field (Association) | { Length - 100 to 130 yds Width - 50 to 100 yds |

| | |
|-----------------------------|--|
| Football' (Rugby) field | { Length - 110 yds. Width - 75 yds. |
| Golf hole | 4½ inches in diameter |
| Hockey ground | { Length - 100 yds. Width - 60 yds. |
| Marathon Race | 26 miles, 385 yds. |
| Table Tennis | 9 ft.x5 ft.x2½ ft. |
| Tennis Court | { 78 ft.x36 ft. (Doubles) 78 ft.x27 ft. (Singles) |
| Height of net at the Centre | 3 ft. |
| Water Polo | 30 yds.x20 yds. |
| Polo ground | 300 yds.x160 to 200 yds. |

GAMES AND NUMBER OF PLAYERS ON EACH SIDE

| Game | No. of Players | Game | No. of Players |
|---------------|----------------|--------------|----------------|
| Baseball - | 9 | Hockey - | 11 |
| Basketball - | 5 | Net ball - | 7 |
| Badminton - | 1 to 2 | Polo - | 4 |
| Cricket - | 11 | Table Tennis | 1 to 2 |
| Football - | 11 | Tennis - | 1 to 2 |
| (Association) | | Volleyball - | 6 to 9 |
| Football - | 15 | Water Polo - | 7 |
| (Rugby) | | | |

DICTIONARY OF SPORTS TERMS

Ashes (Cricket). The mythical remains of the English Cricket which was said to have died in 1882 when Australia won the rubber for the first time and proved a formidable rival to England. An obituary notice in the *Sporting Times* announced that the Ashes of English Cricket were being taken to Australia. Since 1963, Australia has been retaining the Ashes.

Bowling (Cricket). When a player with the ball (bowler) throws the ball to the player with the bat (batsman), this act is called *bowling*. The bowling is required to be done in a prescribed manner. When the bowler throws a bumper which rises after hitting the ground and darts towards the batsman, it is called *Bodyline Bumper-Bowling*. This type of bowling is employed by the bowler to hit the batsman and to harass or intimidate him. Another kind of bowling is *Googly*. It is an off-breaking ball with an apparent leg-break action on the part of the bowler, and conversely a leg-breaking ball with an apparent off-break action on the part of the bowler. The bowler throws six balls in succession and it is called an *Over* and if no run is scored out of the Over, it is called a *Maiden Over*. Both the bowler and the batsman stand at their respective *Creases*, which are two lines on either side to specify their positions. When the bowler crosses the crease into the pitch, or throws the ball in an improper way, the ball is called *No Ball*. A run obtained when the ball touches neither the bat nor the

batsman is called a *Bye* and one obtained when the ball touches the batsman's body (but not hands) is called a *Leg Bye*.

Bully (Hockey). When the ball, at the start of the game, after scoring a goal or when it goes out, is placed at the centre or at some other place and the two rival players are given the chance to take it to the other's side, it is called a *Bully*.

Back Hand (Tennis). When a shot is made by hitting from other side of one's normal playing hand, it is called *Back Hand*.

Cannons (Billiards). When a player's ball touches two other balls.

Corner Kick (Football). When a player of the defending team kicks the ball over the goal line, a kick (called the *Corner Kick*) is given to the attacking team from within the quarter circle nearest to the corner flagpost.

Cover Point (Cricket). It is a position given by the bowler to a fielder on the off-side in front of the wicket.

Cue (Billiards). It is the long stick to hit balls with.

Davis Cup (Tennis). Donated by Dwight F. Davis, an American politician, in 1900, this Trophy is contended for by international lawn tennis teams.

Dead Heat (Athletics; running). When two runners approach the winning point simultaneously, they are said to be in *Dead Heat*.

Decathlon (Athletics). Composite contest consisting of broad jumps, high jump, discus throw, shot put, javelin throw, polevault, 100-metre, 400-metre, and 1500-metre flat races and 110-metre hurdle race.

Derby (Horse Racing). Founded in 1780 by the Earl of Derby, it is the most famous horse race in the world. It is run at Epsom in England on a Wednesday in May or June. The course is $1\frac{1}{2}$ miles long and the race is confined to three-year old horses.

Deuce (Tennis). An indication that each side has scored 40 points at the game point.

Draughts (Checkers). This game is known as Draughts in England and Checkers in U.S.A. A game for two it is played with 24 counters on board with 64 squares. The game is being played in Europe since the 16th century; a similar game is also known to have been in vogue even in ancient times.

Dribble (Hockey). The act of carrying the ball on the blade of the hockey stick. In football, it is the act of taking the ball along by means of soft, short kicks.

Drive (Cricket). When the batsman hits the ball towards the bowler's direction and when it rolls along the ground, it is termed a *Drive*.

Duck (Cricket). When a batsman is dismissed without scoring a run.

Durand Cup (Football). Challenge Football Trophy, instituted by Sir Mortimer Durand. Formerly the matches were played in Simla but since 1950 the seat of the tournament has shifted to Delhi.

Follow On (Cricket). When the batting team, on account of its poor score, is asked to start their second innings, it is said to have been given *Follow on*. In this case, the team having an edge

over the other must be leading by a margin of at least 200 runs.

Gambit. (Chess) A mode of opening the game.

Grand National (Horse Race). English steeplechase, held in March or April at Aintree and one of the important sporting events of the year. It has a course of about $4\frac{1}{2}$ miles.

Grand Prix (Horse and motor racing). A two mile international horse-race held at Longchamps, France. These days an international motor race is also held there.

Hat trick (Cricket, Hockey, Football). When a bowler dismisses three batsmen with three balls in succession or a player (in Hockey and Football) scores three goals in succession, the player is said to have performed a *Hat Trick*.

Hit Wicket (Cricket). When a batsman, standing in his crease, hits his wickets with his body or bat, he is declared *Hit Wicket* and out.

Half Volley (Tennis). A return stroke just when the ball touches or rises from the ground.

Hand Ball (Football). When a hand is used (including an accidental touch by hand) to check or push the ball, which act is not allowed in Football.

Kadir Cup (Pig-sticking). Trophy for pig sticking contest held at Meerut.

Leg Before Wicket (l.b.w.) (Cricket). When a ball is prevented from hitting the wickets by any portion of the batsman's body (except hands), the player is declared L.B.W. and, therefore, out.

Let (Tennis). It is the first service gone wrong.

Little Slam (Bridge). The occasion when a player makes 12 tricks.

Marathon Race (Athletics). The long-distance race included as an event in the Olympic Games in 1896. It covers a distance of 26 miles and 385 yards. The name "Marathon Race" is derived from the "Battle of Marathon", when a runner was employed to run 22 miles to Athens to announce the Greek victory. Immediately after his arrival, the runner fell dead.

M.C.C. (Cricket). Abbreviation for Marylebone Cricket Club, the governing body of Cricket in England. It has its headquarters at Lord's Cricket Grounds, London.

Off side (Hockey and Football). When a player has approached the goal line to play the ball and there are less than two players of the opposite side to defend the goal, the player is declared "off side".

Run Out (Cricket). When the batsman leaves his crease to secure a run but in the meantime a fielder catches the ball and hits the wickets with it, the batsman is declared "run out".

Ranji Trophy (Cricket). Trophy for inter-State cricket matches in India. The Trophy was donated by the Maharaja of Patiala in 1934 in the memory of Ranjit Singhji, the Prince Jamsahib of Nawanagar.

Roll In (Hockey). When the ball goes out of the field from the sides, it is rolled into the field by hand.

Rubber (Cricket). When a team wins more matches than it loses in a series, it is said to have won the rubber. The term is used in Bridge as well.

Scoop (Hockey). The act of carrying the ball and raising it to throw over the heads of the players by means of the stick is called "scoop".

Steeplechase (Horse race with hurdles). Horse racing over hedges, ditches and other hurdles, set up in a regular course. The Grand National at Aintree is the greatest hurdle race, the course being $4\frac{1}{2}$ miles with 30 jumps.

Sticks (Hockey). A term used in Hockey, it denotes a situation when a player, while striking at or approaching the ball, raises a part of his stick above his shoulder. It may be by chance or may be with a view to intimidating or hampering an opponent, but it is not permissible.

Tee (Golf). The high ground (or position) from where the ball is hit.

Test Match (Cricket and Hockey). In Cricket, the first class match played between the best teams of two Commonwealth countries. Test matches are now played in Hockey, Football, Volleyball and other games between the teams of two countries.

Volley (Tennis). A fast and forceful stroke played close to the net before the ball touches the ground. It is generally difficult for the other side to play it. In Volleyball, the stroke is played near the net over to the other side with a violent hand strike.

Wimbledon (Tennis). A suburb of London and Tennis headquarters of England. International Tennis matches are held here.

NATIONAL GAMES OF SOME COUNTRIES

| | |
|----------------|--|
| Australia | — Cricket. |
| Canada | — Ice Hockey (It originated in Canada). |
| Japan | — Jujutsu (or Jiu-jitsu). It is a game comprising Japanese methods of defence and offence, without weapons, in personal encounter. |
| Scotland | — Rugby Football. |
| Spain | — Bull-fighting. |
| U.S.A. | — Baseball. |
| United Kingdom | — Cricket. |
| India | — Though India has no recognised national game, Hockey comes most natural to the Indian players. She has been the longest retainer of the coveted international hockey title at the Olympics as well as other meets. |

XIX Olympic Games

The XIX Olympiad was inaugurated in Mexico on 12 October, 1968 by the Mexican President, Mr. Gustavo Diaz Ordaz. The Games lasted for 16 days. Over 10,000 players including

7,500 athletes from 103 countries participated in the international events. The Indian contingent to the XIX Olympiad was headed by Raja Bhalinder Singh, President of the Indian Olympic Association. The performance of the Indian contingent was, on the whole, poor and disappointing. The Indian Hockey team was defeated by the lowly New Zealanders in the very first fixture. With better performance later, India crawled upwards but could go no farther than the semi-finals where they were defeated and eliminated by Australia. In the final, Pakistan beat Australia to regain the hockey crown which she had lost to India in the 1964 Tokyo Olympics. The Indian team, however, managed to defeat West Germany to win the bronze medal. India is yet to win a single gold medal in an individual event in the Olympic Games.

With 45 gold, 27 silver and 34 bronze medals, U.S.A. towered over the rest of the world. Next in ranking was U.S.S.R. with 29 gold, 32 silver and 30 bronze medals. India, with just one bronze medal (in hockey), finished last but one among medal winners.

OUTSTANDING SPORTS EVENTS (1970)

Cricket

Rohinton Baria Cup. Bombay beat Bangalore to claim the Trophy.

Vizzy Trophy. East Zone defeated North Zone by an innings to win the Trophy.

Moin-ud-Dowla Gold Cup. Modi XI (Jamshedpur) defeated Hyderabad XI by five wickets and secured the Cup.

C.K. Nayudu Trophy. Delhi defeated Bengal, the holders, by virtue of their first innings lead and won the Trophy.

Ranji Trophy. Bombay retained the Trophy for the 12th year in succession defeating Rajasthan by an innings and 59 runs.

India-Australia Test Series (Played in India). Australia won the series 3-1. The Test won by India was the one played at Delhi. The Test played at Kanpur was a draw. The Indian and Australian teams were led by Nawab of Pataudi and Bill Lawry respectively.

South Africa-Australia Test Series (Played in South Africa). South Africa won all the four Tests. This series created history as South Africa had never won all the Tests against any country nor Australia had ever lost all the matches to any country in the past. The South African and Australian teams were led by B. Bucher and Bill Lawry respectively.

England vs. World Test Series (Played in England). This was a substitute for the MCC-South African series which could not come off due to general opposition in England to playing against apartheid-practising South Africa. The five-match series was won by the World XI by four tests to one.

Hockey

Rangaswamy Cup (National Championship). Punjab, the holders and Railways failed to decide the tie and were, therefore, declared the joint winners.

Murugappa Gold Cup. Corps of Signals, Jullundur humbled HAL Bangalore to win the Cup.

Bombay Gold Cup. BSF Jullundur humbled Mohun Bagan, 3-1 to secure the Cup. In 1969, they had shared the Cup with Tata Sports.

Delhi Championship. Northern Railway defeated New Stars by two goals to nil to win the championship.

Rene Frank Tournament. BSF Jullundur defeated Eastern Railway 2-0 and won the Trophy.

Kuppuswamy Trophy. Corps of Signals, Jullundur defeated Integral Coach Factory, Madras to win the Trophy.

Beighton Cup. Western Railway defeated East Bengal to lift the Platinum Jubilee Cup of the Beighton Hockey Tournament, started in 1895.

Obaidullah Khan Gold Cup (Bhopal). Sikh Regimental Centre, Meerut defeated Rajasthan Club, Calcutta and annexed the Cup.

Agha Khan Cup. Artillery Centre, Nasik beat Mahendra and Mahendra 1-0 to win the Cup.

Junior National Championship. Tamil Nadu triumphed over Mysore to win the Championship by two goals to nil.

Junior Girls National Championship. Punjab defeated PEPSU, the holders.

International Hockey Tournament. Held at Bombay, it was played among India, West Germany, Holland, Belgium, Japan, Argentina and Italy. West Germany won the Tournament defeating Holland by 3 goals to nil. India were placed third in the Tournament.

M.C.C. Tournament. BSF (Jullundur) and Integral Coach Factory (Perambur) were declared joint winners.

European Championship. West Germany beat Holland by 3 goals to 1.

Asian Games Hockey Championships. The events will be held at Bangkok in December, 1970 and will be participated by 12 countries including India (holders) and Pakistan (the Olympic champions). The Indian hockey team will be captured by Harbinder Singh.

Nehru Hockey. All India Police defeated Northern Railway to win the championship.

Football

DCM Trophy. Taj Club (Teheran) defeated Andhra Pradesh Police.

Rovers Cup. East Bengal beat Mohun Bagan, winning the Cup by three goals to nil.

Subroto Cup. Govt. Higher Secondary School, Car Nicobar and Gorkha Boys' Company, Dehra Dun were declared joint winners.

Durand Trophy. Gorkha Brigade, Dehra Dun humbled BSF by a solitary goal to win the Cup.

Chakola Gold Trophy. BSF defeated Vasco Club, Goa.

Nizam Gold Cup. South-Central Railway Sports Association (Secunderabad) secured the Cup by defeating Army Ordnance Corps, Hyderabad by one goal to nil.

Nehru Trophy. Mohun Bagan, Calcutta defeated Mafatlal Sports Club, Bombay by a solitary goal and bagged the Trophy

Brig. Hoshiar Singh Memorial Trophy. New Delhi Heroes trounced Indian Nationals to lift the Trophy.

Sait Nagjee Amarsee Memorial Trophy. BSF (Jullundur) defeated SESA Sports Club, Goa.

I.F.A. Shield. East Bengal (Calcutta) defeated Pas Club of Teheran and won the Shield.

Santosh Trophy (National Championship). Punjab defeated Mysore 3 to 1 in the spectacular replayed final to secure the Trophy for the first time.

Inter-University Championship. Punjab University retained the title.

Jules Rimet Trophy (World Soccer Cup). Brazil beat Italy by four goals to one in the final played at Mexico. The Tournament attracted world-wide attention. Being the first country in the world to win the Cup thrice—other wins being in 1958 and 1962—Brazil has become the permanent holders of the Trophy.

Asian Youth Soccer Tournament. Burma beat Indonesia by three goals to nil and won the Tournament.

13th Merdeka Tournament (1970). (Kuala Lumpur). South Korea beat Burma 1-0 to win the Trophy. She had earlier shared the Trophy with Malaya (1960), Taiwan (1965) and Burma (1967). India beat Hong Kong 3-2 to secure third place in the Tournament.

Lawn Tennis

Asian Lawn Tennis Championships. *Women's Singles* : Mrs. Azbandaze (Russia). *Men's Singles* : Alexander Metrevelli (Russia) beat Premjit Lall (India). *Men's Doubles* : S. Minotra and S.P. Mishra beat Premjit Lall and Jaideep Mukherjea. *Mixed Doubles* : Alexander Metrevelli and Miss Ivanova beat Gulyas and Miss Kiran Peshawaria.

Davis Cup. In the Eastern Zone tie, India defeated Pakistan. Later she beat Australia by 3 games to 1 and won the Eastern Zone final. India was represented by R. Krishnan (non-playing Captain) Premjit Lall, Jaideep Mukherjea, Vijay Amritraj and Shashi Menon. In the inter-zone semi-final, played at Poona, India were defeated by West Germany and thus eliminated. West Germany clashed with USA in the final but lost 0-5. The USA won the Davis Cup for the third year in succession.

Wimbledon Championships. *Men's Singles*: John Newcombe beat Ken Rosewall (both Australia). It was his second win in four years. *Men's Doubles*: John Newcombe and Tony Roche beat Ken Rosewall and Fred Stolle (all Australia). *Women's Singles*: Mrs. Margaret Court (Australia) defeated Mrs. Billie Jean King (US). *Women's Doubles*: Billie Jean King and Rosemary Casals (US) beat Virginia Wade (Britain) and Francoise Durr (France). *Mixed Doubles*: Ilie Nastase (Romania) and Rosemary Casals (US) beat Alexander Metrevelli and Olga Mortova (USSR).

Australian Championships. *Men's Singles*: Arthur Ashe (USA). *Women's Singles*: Mrs Margaret Court (Australia).

South African Open Championship. *Men's Singles*: Rod Laver (Australia) defeated Frew McMillan (South Africa) by three games to one.

US Indoor Open Championship. Ilie Nastase (Romania) defeated Cliff Richey (USA).

London Championships. *Women's Singles*: Margaret Court (Australia) defeated Winne Shaw (Britain).

U.S. Open Championships. *Men's Singles*: Ken Rosewall (Australia). *Women's Singles*: Margaret Court (Australia). She became the second woman tennis player in the game's history to complete the "grand slam" of the four major titles in the same season, e.g., the US, Australian, French and Wimbledon.

Stevens Cup. United States defeated Britain to win the cup for the seventh successive year.

National Championships. *Men's Singles*: Premjit Lall defeated Asian Champion Alexander Metrevelli. *Men's Doubles*: J. Mukherjea and Premjit Lall. *Women's Singles*: Nina Tukherelli (USSR). *Junior Singles*: S. Menon beat C. Mukherjea. *Mixed Doubles*: A. Metrevelli and A. Ivanova beat Timurez Kakulia and Nina Tukhareli (all USSR).

All India Hard Court Tennis Championship. *Men's Singles*: Gulyas (Hungary) beat A. Metrevelli (USSR). *Men's Doubles*: Gulyas (Hungary) and Z. Ivancic (Yugoslavia) beat A. Metrevelli and T. Kakulia (USSR). *Junior Doubles*: V. Amritraj and P. Paranjpe beat N. Bhanumurthi and C. Mukherjea.

Table Tennis

National Championships. *Men's Singles*: Mir Kasim Ali (Andhra). *Women's Singles*: Kaity Chargeman (Maharashtra). *Boys' Singles*: N.R. Bajaj (Maharashtra). *Girls' Singles*: Nayarch Mowla (Maharashtra). *Veterans' Singles*: V. Murguesh. *Women's Doubles*: Kaity Chargeman and Usha Mukunda. *Women's Team Championship (Jayalakshmi Cup)*: Maharashtra 'A'. *Junior Team Championship (Ramanujam Trophy)*: Maharashtra 'A'. *Men's Team Event (Berna-Bellack Cup)*: Mysore.

Asian Championships. *Men's Team Event*: Japan defeated South Korea. *Women's Team Event*: South Korea beat Japan. *Women's Singles*: Miss Kowada (Japan). *Men's Singles*: Nobuhiko Hasegawa (Japan). *Men's Doubles*: Shiges Ito and N. Hasegawa

(Japan), *'Girls' Singles* : Lee Ailesa (South Korea). *Women's Doubles* : Setsuko Kobori and Yukiko Onuma (Japan). *Mixed Doubles* : N. Hasegawa and T. Kowada (Japan).

Volleyball

National Championship. Punjab won both women's and men's titles.

India-Paris University Tests (Played in India). *Men's events*: India were the winners 4-1. *Women's events* : Paris University beat India by 5-0.

Badminton

National Championships. *Men's Singles* : Dipu Ghosh beat Suresh Goel. *Women's Singles* : Damayanti Subedar defeated Shobha Murthy. *Men's Doubles* : Dipu Ghosh and Romen Ghosh beat C.D. Deoras and Suresh Goel. *Women's Doubles* : Shobha Murthy and Maureen Mathias defeated Damayanti Subedar and Jessy Philips. *Boys' Singles* : M.S. Dhillon (Delhi). *Girls Singles*: Maureen Mathias (Mysore). *Mixed Doubles* : Asif Parpia and Rafia Latif (Maharashtra).

Thomas Cup. Indonesia beat Malaysia by seven matches to two.

All England Title. *Men's Singles* : R. Hartono (Indonesia) beat Sven Pri (Denmark). *Women's Singles* : E. Takenaka (Japan) beat H. Nielsen (Britain).

Canadian Open Championships. *Men's Singles* : J. Kojima (Japan). *Women's Singles* : T. Barinaga (USA). *Men's Doubles* : R. Channarong and R. Kanchanaraphi (Thailand). *Women's Doubles* M. Boxall and S. Whetnall (USA). *Mixed Doubles* : J. Kojima and S. Whetnall.

Wrestling

Bharat Kesari : Meher Din (Punjab) defeated Sajjan Singh (Services).

Bharat Kumar. Jagdish Mitter beat Vijay Kumar (Both Punjab).

World Amateur Freestyle Championship. Russia claimed 9 of the 20 gold medals in the events. None of the Indian wrestlers reached the finals.

Athletics

Malaysian Championships. The events were held at Ipoh (North Malaya) and were participated by Malaysia, India, Singapore, Indonesia, Brunei, Nepal, Thailand and Western Australia. India with 8 gold and 3 silver medals finished evenly with Japan. The Indian medal winners were: Edward Sequeira, Gurdip Singh, K. Raghunathan, Sucha Singh, Ram Singh, A.P. Ramaswamy (men) and Manjit Walia and Kamaljit (women).

Air Race (London - Sydney). Captain W. Bright (England) won the 12,000-mile Air Race. He piloted the Britten-Norman Islander aircraft.

Marathon Race. Jasbir Singh (Services) won the 26 miles and 385 yards long race clocking 2 hours, 31 minutes and 36.8 seconds.

Car Race

2nd Asian Highway Rally. The 6,700 km. Car Rally from Teheran to Dacca was won by the Indian driver Nazir Hossain, driving a Triumph Herald.

East African Safari. Edgar Hermann (Kenya) won the Rally.
Spanish Grand Prix. Jackie Stewart won the race.

Boxing

World Heavyweight Championship. Joe Frazier beat Jimmy Ellis.

World Lightweight Championship. Ismael Laguna (Panama) defeated Mando Ramos (US).

Asian Team Championship. South Korea won the Championship.

Inter-University Championship (India). Punjab secured the Championship.

India-West Germany Athletic Test. India won the tests held at Patiala, Amritsar and Kapurthala.

Polo

Baria Cup Tournament. Gnats beat Saddle bags.

Prithi Singh Cup. Indian Navy beat 61st Cavalry.

Boat Race

Alleppey Race (Nehru Trophy). Snake boat "Kallopparamban" won the race and the Trophy, "Pulinkunnu" finishing second.

Basketball

Third Asian Basketball Tournament. Japan were the Champions.

Pre-Asian Basketball Championship. Services defeated Rajasthan to lift the title.

Asian Junior Basketball Championship (Seoul). The Philippines won the First Championship, Japan finishing second and South Korea third. India ranked fifth.

Golf

Indian Open Golf Championship. Chen Shien Chung (Taiwan) won the championship played at Calcutta in March, 1970.

British Open Golf Championship. Jack Nicklaus (USA) was the winner.

Weightlifting

World Weightlifting Championships. *Flyweight* : Stan Holczreiter (Hungary). *Heavyweight*. Vasily Alexeev (Russia).

Chess

World Championship. Soviet Union defeated West Germany to secure Championship for the tenth successive year.

Walking

New World Record. By walking non-stop for 162 hours and 15 minutes, Harbans Singh of Punjab created a new world record.

Swimming

27th National Aquatic Championships. Maharashtra won women's team title defeating Delhi.

Double Channel Swim. Kevin Murphy, a 21-year old Briton (the first from his country) swam the English Channel to France and back in 35 hours and 10 minutes. He was the third person in the world to achieve this feat.

COMMONWEALTH GAMES

Originally conceived as British Empire Games, these "mini Olympic" events were held for the first time in 1930 at Hamilton, Ontario (Canada). The Games (renamed Commonwealth Games) were later held in London (1934), Australia (1938), New Zealand (1950), Canada (1954), Wales (1958), Australia (1962), Jamaica (1966) and England (1970). With the grant of independence to Asian, African and Caribbean colonies, participation by the non-white players considerably increased. The Games consist of athletics, swimming and diving, badminton, bowls, boxing, cycling, fencing, weightlifting and wrestling.

The 1970 Games were held at Edinburgh in July and were participated by 1960 athletes from 42 countries, including a 101-strong contingent from India. For the fourth time in the nine Games held so far, Australia secured the top position in winnings. Having secured 82 medals in the 1970 Games, she dominated many events. India bagged 12 medals (5 gold, 3 silver and 4 bronze) and finished sixth in the medals tally. All the five gold winners, the three silver winners and one of the bronze winners were wrestlers—Ved Prakash, Sudesh Kumar, Uday Chand, Mukhtiar Singh and Harish Chander (gold), Sajjan Singh, Bishwanath Singh and Maruti Mane (silver) and Randhawa Singh (bronze). Other bronze winners were Mohinder Singh (triple jump), Anthony Navis (weightlifting) and Shivaji Bhosle (boxing). Following was the final medals tally :

Final medals tally

| | G | S | B | T | | G | S | B | T |
|------------|----|----|----|----|-------------|---|---|---|---|
| Australia | 36 | 24 | 22 | 82 | Malaysia | 1 | 1 | 1 | 3 |
| England | 27 | 25 | 32 | 84 | Hong Kong | 1 | 0 | 0 | 1 |
| Canada | 18 | 24 | 24 | 66 | Trinidad | 0 | 4 | 3 | 7 |
| Scotland | 6 | 8 | 11 | 25 | Zambia | 0 | 2 | 2 | 4 |
| Kenya | 5 | 3 | 6 | 14 | Singapore | 0 | 1 | 1 | 2 |
| India | 5 | 3 | 4 | 12 | Barbados | 0 | 1 | 0 | 1 |
| Pakistan | 4 | 3 | 3 | 10 | Tanzania | 0 | 1 | 0 | 1 |
| Jamaica | 4 | 2 | 1 | 7 | Fiji | 0 | 0 | 1 | 1 |
| Uganda | 3 | 3 | 1 | 7 | Gambia | 0 | 0 | 1 | 1 |
| N. Ireland | 3 | 1 | 5 | 9 | Guyana | 0 | 0 | 1 | 1 |
| N. Zealand | 2 | 6 | 6 | 14 | Isle of Man | 0 | 0 | 1 | 1 |
| Wales | 2 | 6 | 4 | 12 | Malawi | 0 | 0 | 1 | 1 |
| Ghana | 2 | 3 | 2 | 7 | St. Vincent | 0 | 0 | 1 | 1 |
| Nigeria | 2 | 0 | 0 | 2 | | | | | |

Sixth Universiad (World University Games)

The Games were held at Turin (Italy) in August-September, 1970. With 26 gold, 17 silver and 16 bronze medals, the Soviet Union led the medals tally followed by the USA with 22 gold, 18 silver and 11 bronze. India failed to get any medal. Of the other Asian nations that participated in the Games, only South Korea won a medal—a bronze.

Mountaineering

The first half of 1970 witnessed hectic mountaineering activity in the Himalayas. A number of foreign and Indian expeditions were sent to the already conquered as well as the hitherto

unconquered Himalayan peaks. The Japanese expedition earned the distinction of having scaled Mount Everest twice on 11 and 12 May, 1970 and coming near the glorious exploits of the Indian expedition of 1965 (under Commander M. S. Kohli) which had made four successful assaults on the world's highest peak. A 37-year old Japanese skier, Yichiro Muira, on 6 May, skied down the perilous slopes of Mount Everest from a height of 7,900 metres, just 200 metres below the South Col. The following peaks were conquered during 1970 :—

| <i>Peak and its height</i> | <i>Scaled by</i> | <i>Date scaled</i> |
|-----------------------------------|---|--------------------|
| Chomolhari (24,000 ft.) | Indian Army Officers Team. (Two of the officers who had made an assault on 24 April are missing). | 23 April |
| Annapurna 4 (24,688 ft.) | Kansai University Team of Japan | 25 April |
| Lhotse (27,890 ft.) | Austrian Team | |
| Himalchuli (21,314 ft.) | Dr. Saltet's Team | 5 May |
| Mount Everest (29,028 ft.) | Alpine Club, Japan | 11 & 12 May |
| Annapurna 3 (24,787 ft.) | All women Japanese Expedition | 19 May |
| Annapurna 1 (26,122 ft.) | Joint Nepalese-British Services Expedition. | 20 May |
| Makalu (27,824 ft.) | Japanese Team | 23 May |
| White Sail (21,148 ft.) | Delhi Mountaineering Association Team | 31 May |
| Trisul (23,360 ft.) | Women's Mountaineering Expedition sponsored by Climbers' Club, Bombay. | 4 June |
| | Indo-Tibetan Border Police Team. | 13 July |
| Ladakhi Peak (Kulu) (18,600 ft.) | Indo-Tibetan Border Police Team. | 18 September |
| Betharoli South Peak (20,730 ft.) | Assam Mountaineering Expedition | 28 September |
| Hanuman Tibba (19,450 ft.) | Delhi's all-girls team | 15 October. |

SPORTSMEN IN THE NEWS

Ashwini Kumar. Mr. Kumar has been elected Honorary Secretary of the Indian Olympic Association.

Bedi, Bishen Singh. The well-known Indian left-hand spinner, he is rated among the best world bowlers of the present time. Born at Amritsar in 1946, he made his debut as a schoolboy in Ranji Trophy in 1960-61 playing for Northern Punjab. He toured England, Australia and New Zealand with the Indian Cricket teams in 1967 and 1968. He was given Arjuna Award for 1969 and Padma Shri in 1970. He is at present employed with the State Bank of India.

Clarke, Ron. The Australian world record holder in running in two, three and six miles distances, who has decided to retire from athletics.

Clay, Cassius. Cassius Clay (Mohammad Ali) scored a knock-out victory over Jerry Quarry on 27 October in a scheduled 15-round heavyweight fight, the first since his comeback and the 30th victory without a defeat during the last ten years.

Clough, Ian. The 30-year old British climber, a member of the Joint British-Nepalese Services Expedition in May, 1970 who died in a fall near the Expedition's second camp.

Dani, Bal. The famous Services cricketer. He has been selected as the best Services sportsman for the year 1968-69.

Hill, Ron. England runner who won the Marathon championship gold medal in Commonwealth Games covering 26 miles and 385 yards in 2 hours, 9 minutes and 20 seconds.

Karen Moras. The 16-year old Australian girl swimming prodigy who gave superlative performance by winning three gold medals in the Commonwealth Games at Edinburgh in July, 1970.

Keino, Kip. The 30-year old Kenyan athlete, also an Olympic gold medalist, who won the gold medal in the 1500-metre race in the Commonwealth Games, 1970. He shot into the news as anonymous threats to his life were received for participating in the event.

Muir, Yichiro. The 37-year old Japanese executive-turned-skier who in May, 1970 skied down the perilous slopes of Mount Everest from a height of 7,900 metres, just 200 metres below the South Col. He was the first ever person to do it.

Neufville, Marilyn. A 17-year old Jamaican athlete who won gold medal in the 1970 Commonwealth Games and created new record in women's 400-metre race clocking 51.0 seconds.

Peters, Mary. Belonging to Northern Ireland, she won two gold medals in the 1970 Commonwealth Games—in pentathlon and shot put.

Prasanna, E.A.S. World famous Indian off-break spinner from Mysore who was the chief architect of Indian victory against Australia in Nov., 1969. He was a member of the Indian team that won rubber from England in 1961-62. He has already played 28 tests and captured more than 100 wickets. He has been given Arjuna Award for 1968 and Padma Shri in 1970.

Sobers, Garfield. The World famous West Indies cricketer, who would be leading the West Indies cricket team scheduled to tour India in 1971.

Watanabe, Miss Setsuko. The 31-year old Japanese climber who was the first woman to have climbed to a height of 26,000 feet (7,985 metres) on reaching the South Col of Mount Everest on 17 May, 1970. She was the only woman member of the Japanese Everest Expedition which successfully attempted two assaults on the peak.

Zal Irani. A former President (1966-69) of Board of Control for Cricket in India and a great sportsman of his time, he died on 17 September, 1970 at Madras.

CHAPTER 15

HONOURS AND AWARDS

Q. Write how the following awards are given :—

(i) Ashoka Chakra Class I, and (ii) Krishi Pandit.

(Clk. Gde. Exam., 1970)

Ans. (i) It is a Gallantry Award given for the most conspicuous bravery or some daring or pre-eminent act of valour or self sacrifice (other than in the face of the enemy) on land, at sea or in the air. (ii) The Award is made annually by the Indian Council of Agricultural Research to farmers for their notable contribution towards the cause of agriculture.

Q. (a) What are the following awards made for :

(i) Bharat Ratna (ii) Maha Vir Chakra (iii) Urvashi Award.

(b) Name five persons who got the Bharat Ratna award.

(c) Mention the names by which the five principal forms of classical dances of India are known.

(N D 4., May, 1970)

Ans. (a) See page 446 (ii) See page 448 (iii) It is the national film award given annually to the most outstanding actress of the year. The Urvashi Award for 1969 was given to Malayalam Actress, Sarada.

(b) Dr. S. Radhakrishnan, C. Rajagopalachari, Jawahar Lal Nehru, Dr. Zakir Hussain and Lal Bahadur Shastri.

(c) Bharat Natayam, Kathakali, Kathak, Manipuri and Odissi.

Q. Answer the following :—

(a) (i) What are the Nobel Prizes ? (ii) Who received the prizes for 1969 in Economic Science and Literature ? Name their country. (iii) Who was awarded the Peace Prize for 1969 ? (iv) Name the Nobel Literature Prize winners who died in February this year and their nationality. (v) Who were the Indian winners of the Nobel Prize ?

(b) Who has been awarded the Kalinga Prize for 1969 ? Mention his country.

(J.N., July, 1970)

Ans. (a) (i) See page 451 (ii) Economic Science : Prof. Ragnar Frisch (Norway); Literature : Samuel Becket (Ireland). (iii) International Labour Organization (iv) Lord Bertrand Russell (British) and S.Y. Agnon (Israel). (v) Dr. Rabindranath Tagore (1913) and Sir C.V. Raman (1930).

(b) Sir Gavin de Beer (England).

Q. Answer the following :—

(i) Name the film which received the top award at the International Film Festival held at Delhi in December, 1969 and its director. What is the top prize ? (ii) Who received the Bharat Award for the best actor of the year 1968 and for what performance ? (iii) Who won the Urvashi Award for the best actress of the year 1968, and for what performance ?

..

Ans. (i) *The Damned*; directed by Inchino Visconti; Golden Peacock. (ii) Ashok Kumar for his performance in *Ashirwaad*. (iii) Sarada for her acting in Malayalam film *Thulabharam*.

Q. Answer the following :—

(i) What is Nobel Prize ? (ii) Name the three Indians or Indian born citizens who have received the Nobel Prize. (iii) Name the first Russian astronaut who encircled the earth in space.

(*Cen. Info. Ser.*, 1969)

Ans. (i) Annual prizes, named after Dr. Alfred Bernard Nobel, the celebrated Swedish chemist and inventor of dynamite who bequeathed funds for these awards. The Prizes are internationally awarded for outstanding contribution in physics, chemistry, physiology and medicine, literature, economics and for promotion of international peace. (ii) Dr. Rabindranath Tagore, C. V. Raman and Dr. Hargobind Khorana. (iii) Yuri Gagarin.

Q. Answer the following :—

(i) What is the Jawaharlal Nehru Award ? (2 lines). (ii) What is the amount of the Award ? (iii) Who received the Award for 1966 ? (iv) When and how was it awarded to him ? (v) What other similar prize had been awarded to him previously ?

(*I.N.*, July, 1969)

Ans. (i) Instituted in the memory of Jawaharlal Nehru in 1965, the award is made annually for an outstanding contribution to the promotion of international understanding, goodwill and friendship among the people of the world. (ii) Rs. one lakh in cash. (iii) Dr. Martin Luther King, the American Civil Rights leader who was assassinated on 4 April, 1968. (iv) The Award was made posthumously and was received by his wife Mrs. Coretta King in January, 1969 at New Delhi. (v) Nobel Prize for 1964.

INDIAN AWARDS

REPUBLIC DAY AWARDS (1970)

Bharat Ratna. This Award is made for exceptional work for the advancement of art, literature and science and in recognition of public service of the highest order. The decoration is in the form of a peepal leaf and is of toned bronze. On its obverse is embossed a replica of the Sun, below which the words "Bharat Ratna" are embossed in Hindi. On the reverse are the State Emblem and the motto, also in Hindi. The Emblem, the Sun and the rim are of platinum. The inscriptions are in burnished bronze.

The recipients for the Award so far are : Shri C. Rajagopalachari, Dr. S. Radhakrishnan, Dr. C. V. Raman (1954); Dr. Bhagwan Das, Dr. M. Visvesaraiya, Jawaharlal Nehru (1955); Pt Govind Ballabh Pant (1957); Dr. D. K. Karve (1958); Dr. B. C. Roy, Purushotamdas Tandon (1961); Dr. Rajendra Prasad (1962); Dr. Zakir Husain, Dr. P. V. Kane (1963) and Shri Lal Bahadur Shastri (Posthumous) (1966).

Padma Vibhushan. The Award is made for exceptional and distinguished service in any field, including service rendered by government servants. The decoration is circular in design, with a

geometrical pattern superimposed on the circle. On the obverse there is a lotus flower embossed on the circular space. The word "Padma" is embossed in Hindi above and the word "Vibhushan" below the lotus flower. On the reverse are the State Emblem and the motto in Hindi. Recipients of the Award for 1970 are : --

A.L. Dias, formerly Secretary, Deptt. of Food; A.R. Mudaliar, Chairman, Indian Steamship Co; Dr. B.R. Sen; Lt. Gen. Harbakhsh Singh; Gen. P.P. Kumaramangalam; Group Captain Suranjan Das and Dr. Tara Chand, educationist and historian.

Padma Bhushan. The Award is made for distinguished service of a high order in any field, including service rendered by Government servants. It has the same design as "Padma Vibhushan"; on its obverse the word "Padma" appears above and the word "Bhushan" below the lotus flower. The inscription "Padma Bhushan" on the obverse, the geometrical pattern on either side and the border around the periphery are in burnished bronze. Recipients of the Award for 1970 are : -

Ahmad Jan Thirakawa (tabla player); Dr. Aniya Chakravarty (poet); A.V. Sahastrabudhe; B.R.A. Mandloi; Dr. B.N. Ganguli (economist); Budhadeva Bose; G.A. Narasimha Rao; G. Joshuya; H.R. Gupta (Mayor of Delhi); Mrs. Hirabai Barodekar (singer, Maharashtra); Mrs. Kamla (dancer); Dr. K. Ramiah; Dr. M.S. Krishnan; Dr. M.P. Mehra; M. R. Brahman; N.S. Kajrolkar; N.M. Wagle; Dr. P.N. Wahi; Dr. P.K. Kelkar; Ramkinkar Baiz (sculptor); R.L. Joshi; Sombhu Mitra (actor); Miss S. Saini; Dr. S.A. Latif; T.S.A. Chettiar; Dr. V. Satyanarayana; V. Mukhopadhyaya; Yashpal (writer).

Padma Shri. The Award is made for distinguished service in any field including service rendered by Government servants. The name of the decoration is embossed in Hindi with the word "Padma" above and the word "Shri" below the lotus flower on the obverse. Recipients of the Award for 1970 are : -

Abdul Halim Jaffar Khan; Dr. A.K. Basu; Mrs. A. W. Khan; A.C. Barua (poet); A.A. Vyas (music director); Dr. B.N. Sinha; Bishan Singh Bedi (cricketer); Dr. C.D.S. Devanesan; Dr. C. Gopalan; Dr. C.S.C. Sadasivan; Mrs. Damayanti Joshi (dancer); D.M. Dahanukar; Kakasaheb Wagh; D.N. Samant; Din Dayal; E.A.S. Prasanna; Ezra Mir; G.D. Goyal; G. Venkatareshwara Rao; Dr. G.A. Badey; G.R. Hada; Gurdas Mal; Mrs. I.C. Sheth; J.R. Jairamdas; K.K. Nair; K.J. Kandalavala; Mrs. K.B. Sundarambal; K.R. Mullick; K.K. Jacob; L.S. Darbari; Miss L.G. Lutter; M.A. Singh; Mallikarjuna Mansur (music director); Mrs. Maniben Kara; Mohan Naik; M. Krishnan; Narain Singh; Mrs. P.S. Shah; P.K. Mullick; Dr. P.S. Reddy; P.N. Renu; Phul Chand; Dr. P. Narasimhayya; Dr. P. R. Pisharoty; Prem Dhawan (writer); Dr. Prem Parkash Sahni; P.P. Gokhale; P. Lal; Rajendra Kumar (film actor); Dr. R.V. Singh; R.C. Malik; R. Ganeshan; Dr. R.P. Doshi; Mrs. Ratna Fabri (singer); R. Venkataramaiah; R. Ghatak; S.B. Pandya; S.S. Chitrao; Sikandar Ali Wajad (Urdu poet);

S.L. Dwivedi ; Sukumar Bose ; Dr. S.K. Bhattacharya ; S.M.H. Rizvi ; S.M.M. Haq ; T.R. Mahalingam ; Dr. V.V. Rao ; V.S. Sarma (dancer) ; V.R. Rao ; W.R. Rishi.

GALLANTRY AWARDS

Param Vir Chakra. It is the highest Decoration for valour which is awarded for the most conspicuous bravery or some daring or pre-eminent act of valour or self-sacrifice in the presence of the enemy whether on land, at sea or in the air. The decoration is worn on the left breast with a plain purple coloured riband, an inch and a quarter in width. Recipients of the Award for 1965-66 are : 1. Lt-Col. A.B. Tarapore (Posthumous). 2. CQMH Abdul Hamid (Posthumous).

Maha Vir Chakra. It is the second highest Decoration and is awarded for acts of conspicuous gallantry in the presence of the enemy, whether on land, at sea or in the air. The decoration is worn on the left breast with a half white and half orange riband, an inch and a quarter in width, the orange being nearer the left shoulder. Recipients of the decoration for 1968 are : Lt. Col. Rai Singh (Grenadiers) and Major Harbhajan Singh (Rajput) (posthumous).

Vir Chakra. The Vir Chakra is third in the order of Awards given for acts of gallantry in the presence of the enemy whether on land, at sea or in the air. The Chakra is worn on the left breast with a half blue and half orange riband, an inch and a quarter in width, orange being nearer the left shoulder. Recipients of the decoration for 1968 are : Capt. P.S. Dagar, Grenadiers (Posthumous), Hav. Lakhmi Chand, Grenadiers (Posthumous) and Sepoy Gokau Singh, Rajput.

Ashoka Chakra. The medal is awarded for the most conspicuous bravery or some daring or pre-eminent act of valour or self-sacrifice on land, at sea or in the air. The Chakra is worn on the left breast with a green-coloured silk riband, an inch and a quarter in width, and divided into two equal segments by an orange vertical line.

No Award for 1970.

Kirti Chakra. The Decoration is awarded for conspicuous gallantry. It is made of standard silver and is circular in shape. The recipient for the Decoration in 1970 is Mr. Sham Sunder. ASM, Northern Railway.

Shaurya Chakra. The Decoration is awarded for an act of gallantry. It is exactly like the Ashoka and Kirti Chakras except that it is made of bronze. Recipients for 1970 are : Major C.N. Kaul, Sikh ; Maj. M.M.S. Bajaj, GR (posthumous) ; Capt. M.P. Singh, Jat ; Capt. M.S. Chadha, Kumaon ; Capt. Yogeshwar Bahl, GR ; Sub. Sheoraj Singh, Jat ; Naib. Sub. Harihar Singh, Kumaon ; Jem. Prem Bahadur Rai, Assam Rif ; P/O S.P. Sahni ; Naik Dalbahadur Limbu, GR ; L/N. Narpat Singh, Kumaon ; L/N. Prithi Ram, Dogra ; Rifleman Bhuwa Thapa, Assam Rif. (posthumous) ; Rifleman. N.C. Kosh, Assam Rif. (posthumous) ; Mr. R.P. Seth, A.E.E.

Param Vishisht Seva Medal. The Medal is awarded to personnel of all the three Services in recognition of, the distinguished service of the most exceptional order. Circular in shape and 35 mm in diameter, it is made of gold. Recipients of the Medal in 1970 are : Lt. Gen. J.S. Aurora ; Lt. Gen. Ajit Singh ; Vice Admiral N. Krishnan ; Maj. Gen. N.C. Rawley ; Maj. Gen. Sagat Singh ; Maj. Gen. Umrao Singh ; Maj. Gen. M.G. Hazari ; Rear Admiral B.R. Singh ; Air Vice Marshal Ajit Nath.

Ati Vishisht Seva Medal. The Medal is awarded to personnel of all the three Services in recognition of the distinguished service of an exceptional order. Circular in shape and 35 mm in diameter, it is made of silver. Recipients of the Medal in 1970 are :—Brig. A.S. Vaidya, Armd. Corps ; Brig. G.L. Sesagiri, IME ; Brig. J.D. Kapoor, RVC ; Brig. P.C. Lal, Int. Corps ; Brig. R.A.R. O'Connor, MLI ; Brig. Risal Singh, Raj. Rif ; Brig. Sukhwant Singh, Arty ; Brig. S. Kolandavelu, Arty ; Brig. S.S. Puri, Armd. Corps ; Brig. Shabeg Singh, GR ; Commodore D.C. Kapoor, IN ; Commodore Kirpal Singh, IN ; Commodore Rajendra Tandon, IN ; Air Commodore Satpal Singh ; Col. Iqbal Singh, Arty ; Col. Manohar Lal, Punjab ; Col. A. Monteiro, Engrs ; Capt. B.D. Law, IN ; Surgeon Capt. D.R.F. Pinto, IN ; Capt. L. Gomes, IN ; Capt. J.S. Randhawa (posthumous) ; Capt. K. Sudharan, IN ; Capt. M.S. Grewal, IN ; Capt. M.R. Schunker, IN ; Group Capt. A.K.S. Bakshi ; Group Capt. B.K. Stidston ; Group Capt. L.M. Katre ; Group Capt. N.L. Badhwar ; Group Capt. Randhir Singh ; Col. Pyara Lal, Madras ; Col S.C. Sharma, Dogra ; Instructor Commander M.S. Kohli, IN.

Vishisht Seva Medal. The Medal is awarded to personnel of all the three Services in recognition of distinguished service of a high order. Circular in shape and 35 mm in diameter, it is made of bronze.

Recipients of the Medal in 1970 are : Col. R.S. Wodeyar, Arty ; Lt. Col. Achhar Singh ; Lt. Col. B.R. Singh, Engrs ; Lt. Col. B.J. Singh, Jat ; Lt. Col. D.S. Sidhu, 9 Horse ; Lt. Col. D.S. Rawat, Arty ; Lt. Col. H.L. Sethi, Int. Corps ; Lt. Col. P.D. Sawhney, Signals ; Lt. Col. R.R. Singh, Dogra ; Lt. Col. S.N. Dar ; GR ; Commander B.R. Vasanath, IN ; Commander C.R. Roy, IN ; Commander J.N. Maitra, IN ; Commander J.C. Puru, IN ; Commander J.J.R. Martin, IN ; Commander K.M. Kumar, IN ; Commander L.E.O. Lunel, IN ; Commander N.S. Menon, IN ; Commander M.R. Nair, IN ; Commander T.A. De-Cuto, IN ; Wg. Comdr. Gursharan Singh ; Wg. Comdr. H.S. Bhatia ; Wg. Comdr. I.S. Dua ; Wg. Comdr. K.S. Sufi ; Wg. Comdr. N.N. Dhir ; Wg. Comdr. N.K. Nair ; Wg. Comdr. P.S. Kapoor ; Wg. Comdr. Rajinder Singh ; Commander S.K. Mitra ; Wing Comdr. V.P. Misra ; Maj. B.N. Singh ; AMC ; Maj. D. Ghosh, AMC ; Maj. G. Lal ; Maj. Gulzarilal Nanda ; Maj. J.P. Alapat, Engrs ; Maj. S.L. Saini, EME ; Maj. T.S. Grewal ; Int. Corps ; Maj. V.N. Channa, Guards ; Lt. Commander Abu Amin ; IN ; Lt. Commander Bikram Singh, IN ; Lt. Commander C.N.B. Menon, IN ; Lt. Commander G.N. Singh, IN ; Lt. Commander H. John-

son, IN; Sq. Ldr. B.S. Hutangadi; Sq. Ldr. Mohinder Singh; Sq. Ldr. M. Khashav; Sq. Ldr. V. Venkataramani; Capt. G. Kurian, AMC; Capt. K.K. Sood, GR; Capt. P.S. Sethi, Engrs.; Capt. Sant Dass, ASC; Lt. B.D. Mohindra, IN; Lt. U.K. Pisharody, IN; Lt. V.U. Shetty, IN; Flt. Lt. A.S. Khullar, Flt. Lt. M.P. Verghese; Sub. Hari Singh, Sikh; MCPO V. Shanmugan; MCPO M.P. Anthony; W/O S.R. Chandra; Flt. Sgt. C.M. Abraham; Flt. Sgt. J.N. Kaul; Flt. Sgt. M. Gopalan; Sgt. P.K. Misra; MCPO B.R. Sharma.

Jeevan Raksha Padak. The Medal is awarded for meritorious acts or a series of acts of a humane nature displayed in saving the life from drowning, fire and rescue operation, in mines, etc.

Class I: The Medal is awarded for conspicuous courage under circumstances of very great danger to the life of the rescuer.

Class II: The Medal is awarded for courage and promptitude under circumstances of great danger to the life of the rescuer.

Class III: The Medal is awarded for courage and promptitude in saving the life under circumstances of grave bodily injury to the rescuer.

Arjuna Awards. The Arjuna Awards to the "Sportsmen of the Year" were instituted in 1961. The Awards are made on the basis of outstanding contribution made to enhance the glory of the game during the year. Recipients of the Award for 1969 are: Harnet Singh (Athletics); Dipu Ghosh (Badminton); Hari Dutt (Basketball); Bishan Singh Bedi (Cricket); Inder Singh (football); Bhuvaneshwari Kumari (of Kota) (shooting); Baidyanath "Nath" (swimming); Anil Nayar (squash); Mir Kasim Ali (Table Tennis). Chandgi Ram (wrestling—Indian style).

OTHER AWARDS

Nehru Award for International Understanding. Instituted in 1965, the Award is made annually for an outstanding contribution to the promotion of international understanding, goodwill and friendship among the people of the world. The Award carries Rs. one lakh in cash and a citation. The new jury for the Award, appointed by the Government of India, consists of the Vice-President G.S. Pathak (*ex-officio* Chairman), Mr. Justice M. Hidayatullah, Chief Justice, Supreme Court, Mr. Justice P.T. Raman Nayar; Mr. G. Kasturi, Miss Padmaja Naidu and Dr. S.K. Chatterjee.

The Award for 1968 has been made to Mr. Yehudi Menuhin, the world famous violinist.

Nehru Literacy Award. This Award has been instituted by the Indian Adult Education Institute. It is made for an outstanding contribution to the promotion of adult literacy in India. The Award for 1970 goes to Mysore State Adult Education Association.

Jnanpith Literary Award. Instituted in 1965, the Award is given to the outstanding creative literary writing in an Indian language, recognized by the Constitution. It consists of a citation.

a bronze cast of Vagdevi, adopted as a symbol of the 'Award, and an amount of Rs. one lakh. The Award for 1969 has been made to Raghupati Sahai Firaq Gorakhpuri, the well-known Urdu poet, for his collection of poems "Gul-e-Naghma".

Shantiswarup Bhatnagar Memorial Awards (1969). Instituted in 1958 by the CSIR, in the memory of Dr. S.S. Bhatnagar, these Awards are made annually for research in physical sciences, chemical sciences, biological sciences and engineering sciences. Each Award carries a cash prize of Rs. 10,000. Recipients of Awards for 1969 are : Prof. B. Ramachandrarao (Andhra), Mr. A.S. Rao (Bhabha Atomic Research Centre), Prof. R.C. Mehrotra (Rajasthan), Prof. S. Basu (Calcutta), Dr. N.K. Dutta (Bombay) and Dr. R. Ramalingaswami (AIIMS).

Prani Mitra Award. Recipients for 1970 are G.R. Rajagopaul, Anand Raj Surana and Mrs. Dorothy N. Dean.

Udyan Pandit. Awarded for excellent effort or achievement in horticulture and fruit-growing, the award for 1970 has been made to Dr. Karni Singh.

Kalinga Prize. The Prize is awarded annually for an outstanding contribution towards promotion and popularization of science. Instituted in 1951 by Mr. Bijoyanand Patnaik, it is administered by the UNESCO. The Prize for 1969 has been awarded to Sir Gavin de Beer of UK for his researches in zoology and biology.

National Awards (1970) for films made in 1969. *Best Actor (Bharat Award):* Utpal Dutta; *Best Actress: (Urvashi Award):* Madhabi Mukherjee; *Best Feature Film:* Bhuvan Shome (Hindi); *Second Best Feature Film:* Dibaratir Kabya (Bengali); *Best Documentary:* Amrita Sher Gill; *Best playback (Male):* S.D. Burman (Aradhana); *Best playback (Female):* K.B. Sundarambal; *Best Music Director:* S. Mohinder (*Nanak Nam Jahaz Hai—Punjabi*); *Best Lyric Writer:* Kaifi Azmi (best song on national integration).

INTERNATIONAL AWARDS

Nobel Prizes. The Prizes are named after Dr Alfred Bernhard Nobel, a Swedish chemist and inventor of dynamite. He donated funds for the institution of these prizes which are given for outstanding work in Physics, Chemistry, Physiology and Medicine, Literature and Promotion of World Peace. A new Prize for Economic Science has been instituted from 1969. In 1970 the winners are :—

Peace: Mr. Norman Ernest Borlaug (USA). *Physics:* Mr. Louis Neel (France) and Hannes Alfvén (Sweden). *Literature:* Alexander Solzhenitsyn (Soviet Union). *Medicine:** *Chemistry:* Prof. Louis F. Leloir (Argentina). *Economic Science:* Prof. Paul A. Samuelson (USA).

Lenin Peace Prizes. Instituted by the Soviet Government in memory of V I. Lenin, the Prizes are made for outstanding work in the promotion of world peace and friendship. In June, 1970, Dr. Linus Pauling, an American, was awarded the prize.

*Not announced till going to press.

Nehru Prizes in Russia. These are awarded by the Soviet Ministry of Culture for contribution to Russian understanding of India. Winners of the Award for 1969 are : Nikolai Tikhonov and Zulfyck (poets), Mirza Tursun-Zadye (Uzbek author), Yevgeny Chelyshev (historian), O.P. Benukh and L. Shaposhnikova (journalists) and S.A. Chuikov and S.I. Tyulzaey (artists).

Soviet Land Nehru Awards. These Awards are made by the USSR Government to writers and journalists and comprise gold-washed bronze medallions, cash prizes and free fortnight's trip to the USSR. The Award winners for 1969 are : Mr. Yash Pal Verma, a Hindi writer ; Mr. V.S. Menon, Malayalam poet ; Prof. V. Karandikar, a Marathi poet ; and Mr. Bishnu Dey, a Bengali writer.

Pulitzer Prizes (1969). Norman Mailer (*Literature—The Armies of the Night*) ; Rene Jules Dubois (*Literature—So Human An Animal*) ; Scott Normandy (*Fiction—House Made of Dawn*) ; George Oppen (*Poetry—Of Being Numerous*) ; William Tuohy (*International Journalism—Los Angeles Times*) ; Edward Adams (*News Photography—Associated Press*).

Oscar Awards. The Awards are made to the best performers of various roles in the films made in the USA. The 1969 Award winners are : *Best Actress* : Katherine Hepburn (*The Lion in Winter*) and Barbra Streisand (*Funny Girl*) shared the Award. *Best Actor* : Cliff Robertson (*Charly*).

Magsaysay Awards. These Awards have been instituted in the memory of late President Magsaysay of the Philippines and are the Asian equivalent of the Nobel Prizes. Five in number, the Awards are made for outstanding contribution in the sphere of government service, public service, international understanding, community leadership and journalism and literature. The 1969 Awards have been made to : *International Understanding* : International Rice Research Institute, Los Banos, Philippines; *Community Leadership* : Mr. Aha Gemange Tudor Ariyaratne, a Ceylonese school master. *Government Service* : Dr. Hsu Shih-Chu (Taiwan); *Journalism and Literature* : Prof. Mitoji Nishimoto (Japan); *Public Service* : Kim Hyung Seo (South Korea).

No award will be made for 1970.

Eugeno Morelli Prize. It is an international Award made by the National Academy of Sciences in Italy. Prof. R. Vishwanathan of Delhi University received this Award from the Italian President in June, 1969.

Hammar skjold Prizes (1969). Emperor Haile Selassie of Ethiopia (Universal Merit) and President Mobutu of Congo (International Cooperation Merit).

Miss Asia Contest. Zeenat Aman of India was declared Miss Asia 1970 followed by Alice Crisostoma (Philippines) as second.

Curie Peace Medal. Awarded by the World Council of Peace, the Juliet-Curie Peace Medal for 1969 was given to Mr. Jaafar Nimeiry, Chairman of the Sudanese Revolutionary Council and to Mrs. Coretta King, widow of the murdered American Negro leader Dr. Martin Luther King. The Award for 1970 has been

made posthumously to Jawaharlal Nehru. Prime Minister Indira Gandhi received the Award on behalf of her father.

4th International Film Festival Awards. Golden Peacock : Best Feature Film: *The Damned* (US-Italy); Short Film: *Taking off at 1800 Hours* (Cuba). **Silver Peacock :** Second Best Film : *The Man and the Crow* (Ceylon). **Best Actor :** Christopher Sandford. **Best Actress:** Lucia Bose. **Bronze Peacock :** Short Film: *Tajore Paintings* (India) **Special Merit Award :** *Bhuvan Shome* (India).

Damien-Dutton Award. The Award is annually made for outstanding work towards eradication of leprosy. Dr. Dharmendra, an Indian medical scientist, received the 1970 Award.

Rabindra Memorial Prize (1969-70) It is a literary prize made annually by the West Bengal Government for an outstanding non-Bengali contribution on Bengali language and literature and carries a cash award of Rs. 5,000. The 1969-70 prize was given to Russian writer Vera Novikova for her work "**Bunkim Chandra His Life and Creations**".

Medal of Freedom. This highest US civilian award was conferred on the Apollo 13 astronauts James Lovell, Fred Haise and John Swigert who, in spite of damage to their spaceship, managed to return to earth in April, 1970.

Order of Ummaya. Mr. Romesh Chandra, the Indian Secretary of the World Peace Council, was awarded in June, 1970 this Iraqi highest award.

Nehru Fellowships. The 16th and 17th Fellowships were awarded to Messrs. K.S. Singh and I. Mahadevan, both members of the Indian Administrative Service.

Lotus Prize (1970). This literary prize of the Moscow "Literaturnaya Gazeta" has been awarded to the well-known Hindi poet Harivansh Rai Bachchan (India), Agostinho Neto (Angola) and N. Zulfia (Uzbekistan).

Sioux Award (1969). It is the highest award of the University of North Dakota (USA). Well-known Indian scientist Dr. C.V.S. Ratnam was chosen for this award for 1969.

Margaret Mann Award (1970). Awarded by the American Library Association, this year's award has been made to Dr. S.R. Ranganathan, India's Professor in Library Science.

Golden Royal Medal. It is the highest medal awarded by the Swedish Red Cross. This year it was made to Dr. August Lindt, the Swiss Ambassador to India, for his humanitarian work earlier in Nigeria.

Phalke Award. The Award was instituted in 1970 by the Government of India in memory of Dada Saheb Phalke, founder of the Indian film industry, to mark his birth centenary. It carries a cash prize of Rs. 11,000, a plaque and a shawl. The inaugural year award was made to Mrs. Devika Rani Roerich, first lady of the Indian screen.

CHAPTER 16

SPACE EXPLORATION

Q. Write one sentence about each of the following :—

- (i) Lunar Module (ii) The planet Mercury (iii) Light Year
(iv) Kidneys (v) 1757 in Indian History.

(*Indian Econ. & Stat. Ser., 1970*)

Ans. (i) The small spider-shaped space vehicle in Apollo 11 and 12 that carried the astronauts from the moon orbit to the moon surface. (ii) It is the smallest and the hottest of the planets of the Solar system and is nearest to the Sun. (iii) It is the distance that light travels in one year and comes to about 6,000,000 million miles. (iv) The pair of glandular organs in the abdomen near the diaphragm and the spine, its function being to eliminate blood's waste nitrogenous matter by excreting urine. (v) The year 1757 marks in the Indian history the ascendancy of the English and the establishment of the British rule in India.

Q. (a) Answer the following :—

(i) Name the three astronauts of Apollo 11 and Apollo 12. (ii) State the names given to the Lunar Module and Command module of Apollo 11 and Apollo 12. (iii) On which area of the moon's surface did the astronauts of Apollo 11 and 12 land? (iv) In which months of 1969 did the astronauts of Apollo 11 and 12 land on the moon.

(b) Name the place from which Apollo 11 and Apollo 12 were fired into space.

(*I.M.A., May, 1970*)

Ans. (a) (i) Neil Armstrong, Michael Collins and Edwin Aldrin (Apollo 11); Charles Conrad, Alan Bean and Richard Gordon (Apollo 12). (ii) *Apollo 11*: Eagle and Columbia; *Apollo 12* Intrepid and Yankee Clipper. (iii) Apollo 11: Sea of Tranquility, Apollo 12: Sea of Storms. (iv) Apollo 11: July; Apollo 12 November.

(b) Cape Kennedy (U.S.A.)

Q. Write briefly on the following :

- (i) Fuel cells (ii) Quasars.

(*Engg. Ser., 1970*)

Ans. (i) Cells for producing electricity by oxidation of a fuel, thus converting chemical energy directly into electrical energy. (ii) See page 466

SPACE EXPLORATION—A BRIEF HISTORY

For hundreds of years, man hungered to fly in the air like birds and to see the world below from a different angle. This was made possible by the close of the 19th Century, with the successful launching of balloon ships. The modern aircraft followed closely on the heels of this crude flying apparatus. By 1910, flying was no longer a strange sight. About 40 years later, man was found itching to reach the moon and other heavenly bodies.

Space, the First Step. The present man is found caught up in the excitement that space represents. Space is the seemingly boundless region extending beyond our earth's influence. In other words,

it is the region that begins where our atmosphere ends and extends to an indeterminable, unknown distance, perhaps to infinity. Beyond our atmospheric envelope is the earth-bound space, followed farther by the interplanetary space, bound to the sun, and the interstellar space and so on. It is important to know that space is not empty of matter, not even those of its regions which lie between or extend beyond the planets, the stars and the galaxies. Throughout the vast expanse of space, matter (largely hydrogen) is scattered from as low a density as one atom per cubic centimetre in interstellar space to that of about ten particles per cubic centimetre in interplanetary space. In addition, the space is subject to gravitational fields, electromagnetic radiation, cosmic rays and other unknown disturbances. The complex phenomena, as these, as well as the hazards and stresses of space flight including weightlessness, effects of radiation, acceleration etc. engaged the scientists' attention for long till they were able to find an initial solution to all these knotty problems.

The Evolution of Space Technology. The precursor of space exploration was the perfection of V2 guided missiles or rockets that the Germans used during World War II. Earlier, by the close of the 19th Century, the Russian scientist-mathematician Konstantin Tsiolkovski had stressed that the rocket in one form or the other was the only practical means for transportation through space. By 1950, meaningful researches in Russia and America had led to the perfection of a mechanism which could hurl an artificial satellite into the first region of space. In the meantime, the Planning Committee of the International Geophysical Year (IGY) recommended the desirability of using artificial satellites in the IGY programme. This suggestion was warmly responded to by the two super powers, the USSR and the USA. The outcome was the launching of the first Soviet Sputniks and the American Vanguard satellites. These were followed by satellites, manned and unmanned, having an in-built mechanism that made possible for the satellite to return to earth whenever desired by the cosmonaut or the ground control.

The Object of Space Exploration. The *raison d'être* of space research is to explore the hows and whys of cosmic phenomena, the fundamental reasons for the creation and evolution of universe, the solar system, the coming into existence of earth, the origin of terrestrial life and the influences, if any, of the stars on the life on this planet. It is also aimed at finding out the possibility of a kind of life on the other planets, possibly different from ours and independent of the matter such as oxygen, hydrogen, nitrogen and carbon. In addition, space research is meant to study the sun, interplanetary environment, streams of solar plasma in the near-terrestrial and interplanetary space, and to understand such phenomena as the aurora borealis, magnetic storms and the radiation belt of the earth.

The Romance of Lunar Probes. The moon, our next door neighbour and a world cosmically inferior to ours (since it is an earth satellite) has always fired the imagination of our poets, visionaries and astronomers. To the modern scientist, this partly

dark world is the first milestone in our journey to the heavenly bodies. Therefore, as soon as our knowledge and experience of the earth-bound space matured, the scientists started probing into the lunar phenomena. The object of these probes is to explore the structure and composition of moon's surface and its history and evolution. The lunar studies are important for an idea of the formation of ancient rocks and sedimentations on its surface with a view to deducing the origin of planets of the earth group. An idea about the origin of moon will unfold the very origin of earth, as well as the solar system, and the evolution of the organic substances of life on our planet. The lunar studies are, therefore, inseparable from those of the formation of earth.

Progress in Space Exploration. The sixties of the 20th century have come to be termed as the Space Decade. By 1960, over two years after Sputnik I entered space on 4 October, 1957, the mechanism to put a satellite in space and bring it back to earth had been perfected. By the end of the Space Decade, 45 earth men—24 Americans and 21 Russians—had travelled in spacecraft for periods ranging from 15 minutes to nearly two weeks, in 37 flights of which 22 were in American and 15 in Soviet craft. Four of the American moonshots had taken men into the lunar orbit and the two final flights (till December, 1969) had matured into manned moonlandings. Four Americans had performed exploratory excursions on moon.

Thus in the Space Decade, the earth man, "after millenniums of yearnings, had learned to lift himself away from earth, reach celestial destinations, survive there and return to earth" with glory and pride. In this neck-to-neck race, the Russians who had always managed to secure the firsts till 1968, have since been outdone by the Americans.

America's Finest Hour. The successful launching of Apollo 8 with three astronauts aboard was America's first major space triumph that pushed the USA much ahead of the USSR in the space race. Apollo 8 was the first manned spaceship to orbit the Moon and come back safely to earth. Apollo 9 and 10 were other attempts in the series to test and perfect the instruments as also to further explore mysteries of Lunar phenomena with a view to obviating the possibility of a mishap in moonlanding. The hour of real triumph and pride for the earthly man in general and the Americans in particular came when on 21 July, Neil Armstrong and Edwin Aldrin landed in the Sea of Tranquillity and walked on the moon surface, collected Lunar rocks, set up scientific experiments and later returned home to receive the highest approbation from the earth dwellers. The performance was repeated by the Americans in Nov., 1969 when the Apollo 12 astronauts landed in the Sea of Storms and explored the Lunar surface more extensively. Whatever the nationality of the men who first landed on Moon, it is a supreme triumph of man's spirit and perseverance.

Lunar Phenomena. Moon has been found to be a forbidding place, devoid of earthly atmosphere (air and moisture), ceaselessly bombarded by meteorites of various sizes, exposed to deadly solar

radiation and totally inhospitable to normal human habitation. Much of what we knew about the Moon has now been confirmed by the data provided by the scientific instruments placed on the Moon surface by the Apollo 11 and Apollo 12 astronauts, detailed examination of the Lunar rocks and dust and the astronauts' observations, strengthened further by the pictures that they radioed to Earth. The Lunar surface is pockmarked with craters measuring from a few centimetres to about 300 kilometres. It also has mountains thousands of feet high from its surface.

Moon has a diameter of 3,456 kms (2,160 miles), approximately one quarter that of Earth and a circumference of 10,824 kms. Its distance from Earth was measured by bouncing laser beams off the laser reflector placed on the Moon by the Apollo 11 astronauts and it came to 363,153.44 kms (226,970.9 miles). The beam took about $2\frac{1}{2}$ seconds to travel to Moon and back. Moon's surface gravity is one sixth that of Earth. An object weighing 27 kilos on Earth would weigh 4.5 kilos on the Moon. Its mass is one-hundredth that of Earth and its volume one-fiftieth. Its mean speed in orbit round the Earth is 3,659 kms per hour and it takes 27 days, 7 hours and 43 minutes to complete a revolution about Earth. It rotates round its own axis in almost exactly the same time; its day and year are of the same duration.

The Lunar Samples. Initial studies of the Moon rocks and dust, brought by American astronauts as well as by Russian spacecraft, indicate an evolutionary history of Moon very much different from Earth's. Moon has been uniformly cool throughout. This is in contrast to the geologically active Earth which has distinct layers of cool crust, warm underlying belt and molten metal-rock core. Titanium, a high melting point substance, has been found in Moon dust. Glass forms 50 per cent of the Lunar dust and is a great store of radio-activity in the Lunar samples. The Lunar surface, described slippery by the Apollo 11 astronauts (due to excessive glass content) has an age of 3,100 million years. Experiments made by exposing mice and machines to Moon dust have given no proof of existence of any living organisms on Moon. These facts strengthen the theory that Moon was an independent celestial body which somehow drew so close to the Earth that it was ensnared by the latter.

The Martian Probes. *Mariners 6* and *7* were launched by NASA in February and March, 1969 and were designed to probe the surface of Mars, the nearest planet to Earth. The data transmitted by the two spacecraft indicate faint evidence of water, ice and water vapour but absolutely no sign of life-giving nitrogen either in the upper atmosphere or between the planet's surface and the atmosphere. The gases traced on Mars are hydrogen, oxygen, carbon monoxide, carbon dioxide, methane and ammonia. Mars has no volcanoes. Its surface is crater-pocked. Earlier theories about the existence of extensive belts of vegetation on Mars have also been falsified. The long, dark lines that criss-cross the Martian surface (and whom the earlier astronomers described as irrigation canals) have now been described as rims of huge craters some of them up to 150 kms. wide.

Exploration of Planets beyond. The current **Apollo** series will end in 1972 with **Apollo 20**. The successful landing on Moon has proved Man's ability to explore all planets of the Solar System and even stars beyond. For inter-Stellar journeys, the most urgent need is to develop a new source of energy that may help carry stations from our Solar System to its adjacent neighbours in the galaxy.

The United States plans to orbit Mars with two spacecraft in 1971, probe Jupiter in 1972 and send a satellite past Venus and Mercury in 1973. The first experimental space station would be launched in 1972. If America's Operation Pluto matures, unmanned fly-by missions to Jupiter, Saturn and Pluto may be sent in 1977 followed by a similar flight to Jupiter, Uranus and Neptune in 1979. Each mission will last for 8½ years.

Space Research and Modern Life. Space research has yielded innumerable benefits to mankind in a variety of ways. It has helped develop a great many by-products of inestimable value by making advances in industry, communications, medicine, scientific research and home life. It would be no exaggeration to say that in the near future, space will be an accepted and unquestioned part of our everyday concepts and uses.

Some Space Firsts

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| World's first artificial satellite | Sputnik I, a Russian satellite entered space on 4 October, 1957. |
| World's and Russia's First Spaceman | Major Yuri Gagarin. He was shot into space on 12 April, 1961. He orbited round the world in VOSTOK I. |
| America's First Space-man | Alan Shepard. He remained in space for 15 minutes on 5 May, 1961. |
| First space flight in a group but in different spaceships. | Major Nikolayev and Col. Popovich (Russians) on August 11 & 12, 1962 (VOSTOK III and VOSTOK IV). |
| First space flight by a man and a woman in different spaceships. | Lt. Col. Bykovsky and Valentina Tereshkova (Russians). (VOSTOK V & VOSTOK VI on 14 and 16 June, 1963) |
| First woman to go into space | Valentina Tereshkova, on 16 June, 1963 |
| First Spaceship to carry more than one person | VOSKHOD I (Russian) (Col. Vladimir Komarov, pilot), Dr. Boris Yegorov (doctor) and Konstantin Feoktistov (scientist—12 Oct., 1964). |
| First person to leave his Spaceship and float in space | Lt. Col. Leonov (Russian) in VOSKHOD II on 18 March, 1965. |
| First Spaceship to hit the moon | LUNIK II (U.S.S.R.). 13 September, 1959. |
| First rendezvous in Space | The American Spaceships GEMINI VI and GEMINI VII on 15 Dec., 1965. |
| First Spaceship to soft-land on the moon | LUNA IX (U.S.S.R.), on 3 February, 1966. |
| First artificial satellite of the Moon. | LUNA X (U.S.S.R.), 31 March, 1966. |

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|---|--|
| First unmanned satellite to orbit round the moon and to return to earth | ZOND 5 (U.S.S.R.) , launched on 15 Sep., 1968 and returned to earth on 21 Sep., 1968. |
| First manned spaceship to orbit Moon and return to earth | Apollo 8 (U. S. A.) in Dec., 1968. |
| First men to land and walk on Moon | Neil Armstrong and Edwin Aldrin (Americans) on 21 July, 1969 (Apollo XI). |

RUSSIAN UNMANNED SPACE FLIGHTS

Sputniks I-VI. Shot into space on 4 Oct., 1957 as the first ever man-made satellite, Sputnik I orbited round the earth at a maximum altitude of 900 kms. Spherical in shape and weighing 83·6 kilograms, it completed a revolution in one hour and thirty-five minutes. Sputnik II carried in it a dog as its passenger. Sputnik III (15 May, 1958) orbited round the earth for two years without meteoric damage. Sputnik V (19 Aug., 1960) carried two passengers, both dogs named Strelka and Belka as also some other forms of life. The spaceship returned to earth with all animals safe. Sputnik VI (1 Dec., 1960) had also two dogs, some insects and plant life but while returning "along an uncalculated trajectory", it burned out.

Luniks I-IV. Launched as a moon probe on 2 Jan., 1959, LUNIK I attained the fantastic velocity of 24,500 miles per hour but it missed the moon by about 5,000 miles. The spaceship continued on into an orbit round the sun. LUNIK II (12 Sep., 1959) hit the centre of the moon on 13 Sep. and became the first spaceship ever to land on moon. LUNIK III (4 Oct., 1959), after two days of its launching, started taking pictures of the reverse side of the moon. LUNIK IV (3 Apr., 1963) was the fourth moonshot.

Lunas I-XVI. These spaceships were launched as a part of Soviet moon exploration programme. **Luna IX** (31 Jan., 1966) achieved a soft-landing on the moon surface on 3 Feb., 1966. Having landed in Ocean of Storms, it immediately started sending pictures of the lunar surface to earth. **Luna X** (31 Mar., 1966) became the first man-made satellite of the moon and started orbiting round it every three hours. **Luna XIII** was the second spaceship to soft-land on moon on 24 Dec., 1966. Its pictures of the moon indicated that there is no dust on the lunar surface. **Luna XV**, the unmanned spacecraft with considerable scientific equipment was launched by the Soviet Union a few days before Apollo 11. It went into the lunar orbit three days earlier than the Apollo 11 and continued its circumlunar revolutions. When the Apollo 11's Eagle made a descent towards the moon (from the lunar orbit), **Luna XV** was brought as near as 15 km from the lunar surface, presumably to watch and radio back the American astronauts' landing and walking on the moon. When the American Eagle's rockets fired for lift-off from the moon back to the mother-ship in the moon orbit, **Luna XV** crash-landed on the moon some 500 miles away. Launched on 12 Sep., 1970, **Luna XVI** was yet another historic achievement of the USSR in the field of space

science. This unmanned satellite—third of the series that touched Moon—soft-landed on the barren surface of the Moon's Sea of Fertility on 20 Sep., 1970. Before landing, it remained for two days in an elliptical lunar orbit just 10 to 60 miles above the surface. After completing its lunar exploration mission and collecting lunar rocks and dust, the satellite returned to the Earth (in the U.S.S.R. territory) on 24 Sep., 1970.

Venus I—VII. These spacecraft were launched to probe Venus, the cloud-obscured planet of the Solar System. VENUS II, launched in Nov., 1965, missed the planet by a few thousand miles. VENUS III crashed on the Venus surface on 1 Mar., 1966 and became the first spacecraft to land on the planet. Venus IV soft-landed a box of instruments on Venus on 18 Oct., 1967.

Venus V and VI were launched on 5 January and 10 January, 1969 respectively. They made history when they landed on Venus after an interval of only one day on 16 and 17 May respectively. The two probes covered a distance of 350 million kilometres (220 million miles) of interplanetary space in about 130 days to reach Venus. After descending through the Venusian atmosphere, the probes radioed back to earth important data with regard to temperature, pressure and chemical composition of Venusian atmosphere. According to this information, the planet is inordinately hot and extremely inhospitable to such life as we find on earth. Venus, unlike earth, has no radiation belts to protect living organisms from lethal space radiations. Venusian atmosphere is also subjected to extremely violent winds. **Venus VII** was launched on 17 Aug., 1970 as a continual Venusian mission.

Molniya I. Launched on 23 Apr., 1965, it was the first Russian communication satellite to relay television programmes and long-distance multi-channel radio photos and telegraph communications.

Yantari I. This Russian unmanned ionospheric space laboratory was launched in October, 1966.

Milnia I. Launched on 5 Oct., 1968, it is the Russian communications satellite relaying television programmes to Siberia and Central Asia.

Zond I—VIII. Launched on 3 Mar., 1968, **Zond IV** was an automatic space station to study the outlying regions of "near earth" space. **Zond V** was launched on 15 Sep., 1968. It was put into the lunar orbit, 2,000 kms. above the moon's surface. It carried a pair of turtles, some flies and worms. It was world's first ever satellite to have orbited round the moon and later returned to earth on 21 Sep., 1968. **Zond VI** was also a moonshot which was launched into lunar orbit to observe a part of the hidden surface of moon. During the descent, the spacecraft first entered the atmosphere but was made to cross the atmosphere again to return to space. Its second entry into the atmosphere had lowered its speed considerably so as to be safe for it to land in the Soviet Union. **Zond VII** was launched in Aug., 1969 as a space probe, beyond Moon. **Zond VIII**, launched on 20 Oct., 1970, was an automatic station in the direction of the moon to carry out physi-

cal research along flight path and in near moon space. After circling moon on 24 Oct., it returned to earth on 27 Oct., 1970.

RUSSIAN MANNED SPACE FLIGHTS

Vostok I--VI. VOSTOK I (12 April, 1961) was the first ever manned flight. Major Yuri Gagarin became the world's first cosmonaut. He orbited round the earth once in one hour and forty eight minutes and came back safely. VOSTOK II (6 Aug., 1961) was piloted by Major Gherman Titov. VOSTOK III (11 Aug., 1962) with Major Andre Nikolayev as its pilot established the first space rendezvous with VOSTOK IV on 12 Aug, 1962. VOSTOK IV, piloted by Col. Pavel Popovich, had whirled round the earth 48 times before returning from the space journey. VOSTOK VI (16 June, 1963) had in it the world's first woman cosmonaut Valentina Tereshkova who reached space and orbited round the earth. She had 49 orbits and remained in space for over 70 hours.

Voskhod I- II. These were the multi-man space-flights. VOSKHOD I (12 Oct., 1964) had in it Col. Vladimir Komarov (Pilot), Dr. Boris Yegorov (Doctor) and Konstantin Feoktistov (Scientist). Col. Pavel Balyayev and Alexei Leonov were shot into space together on 18 March, 1965 in VOSKHOD II. Leonov, tied with a string to the spaceship, floated in space and was the first person to do it.

Soyuz 1 to 5. Col. Engineer Vladimir Komarov, who had earlier piloted **Voskhod I** (Oct. 1964), was again put into space in the spaceship named **Soyuz 1** on 23 Apr., 1967. But on 24 Apr., 1967, tragedy struck the spaceship on its return journey just 7 kilometres above earth. The parachute's straps got entangled with the spaceship which hit the earth at a great speed killing the cosmonaut. **Soyuz 2** (Oct., 1968) was an unmanned spacecraft which rendezvoused with **Soyuz 3**. The object of these flights was to develop docking techniques. **Soyuz 4** and **5** (Jan. 1969) were attempts at establishing a space station as base for further Lunar assaults. **Soyuz 9** (1 June, 1970) was a manned spacecraft with two cosmonauts, A. Nikolayev and V. Sevastynov, on board. They remained in space for over 17 days to test conditions for manned space flights and came back to earth after the achievement of their objective.

IMPORTANT AMERICAN UNMANNED SPACECRAFT

Explorer 1 to 38. EXPLORER I was the first US unmanned spacecraft. It was put into the orbit to explore the inner radiation belt (Van Allen belt). EXPLORER 6 transmitted to earth the first television photograph of earth. EXPLORER 7 (13 Oct., 1959), "8" (3 Nov., 1960) and "9" (16 Feb., 1961) transmitted to earth vital scientific data on magnetic storms and atmospheric density. EXPLORER 22 (9 Oct., 1964) was the first satellite to carry laser equipment. EXPLORER 38 monitored low frequency radio signals from outer space.

Telstar I-II. Telstar I (10 July, 1962), established the first trans-Atlantic relay of television signals. The colour TV was relayed on 16 July, 1962. Tests were also made about the broad

band microwave communications in space. **TELSTAR II** (7 May, 1963) is an active-repeater communications satellite.

Mariner 1—7. **MARINER 2** (27 Aug., 1962) entered Venus some three months after its launching. The data that it sent back to earth indicate the existence of carbon dioxide in the upper atmosphere. **MARINER 4** (28 Nov., 1964) was a Mars probe. It took pictures of Mars from a distance of 32,000 kms. **MARINER 5** (19 Oct., 1967) was also a Venus probe. **Mariner 6 and 7** (Feb., 1969) were Martian probes.

Ranger I-IX. **RANGER VII** (28 July, 1963) transmitted 4,000 still television photographs of the Moon's surface. **RANGER VIII**, in its lunar photographic mission, covered more area than **RANGER VII** and **RANGER IX** sent back photos that were transmitted over the commercial TV.

Early Bird. Launched on 6 Apr., 1965 it was the first* commercial satellite put into orbit by the NASA for the Comsat Corporation. It provides a 240-channel telephone link between Europe and America and also a television link between Eastern and Western Hemispheres. (*I.A.S., Asstt. Gde., 1965*)

Biosatellite II. Launched on 8 Sept., 1967, it carried in it some plants, insects and eggs.

Surveyor I-VII. **SURVEYOR I** was launched on 30 May, 1966. It was the first US softlanding on moon and successful test of landing system required for subsequent manned landing. The satellite also transmitted photographs of moon's surface. **SURVEYOR V to VII** sent thousands of valuable pictures back home.

IMPORTANT MANNED ORBITAL FLIGHTS BY USA

Freedom 7. Launched on 5 May, 1961 with Commander Alan Shepard within, it was only a space jump. The spacecraft attempted no orbit but came down to earth safely.

Liberty Bell 7. Launched on 21 July, 1961 with Virgil Grissom within, who spent about 15 minutes in space.

Friendship 7. Lt. Col. John. H. Glenn, who piloted the spacecraft, launched on 20 Feb., 1962, had 3 orbits and spent about 5 hours in space, having travelled over 80,000 miles.

Gemini III-XII. Two astronauts—Virgil Grissom and Lt. Commander Young—were sent together in **GEMINI III** on 23 Mar., 1965. **GEMINI IV** carried Major James A. McDivitt and Edward White. It was during this flight that Edward White jumped into the space out of the spaceship and floated there for about 20 minutes, tied to the spaceship. **GEMINI V** (L. Gordon Cooper and Charles Conrad) spent full 8 days in space. **GEMINI VI** (Walter M. Schirra and Thomas Stafford) and **GEMINI VII** (Frank Borman and James Lovell) established rendezvous in space on 15 Dec., 1965 for about 20 hours.

*At present there are 7 telecom satellites operating—4 over the Atlantic Ocean, 2 over the Pacific and 1 over the Indian Ocean. 'So far 3 satellites have been lost due to launching failures.

GEMINI IX, launched on 3 June, 1966, had Lt. Col. Thomas Stafford and Lt. Commander Eugene Cernan on board. Cernan performed the record space walk of over 2 hours. **GEMINI XI** (12 Sep., 1966) had Pilot Charles Conrad and Lt. Commander Richard F. Gordon on board. It took coloured photographs of the sky and the earth. Astronauts James Lovell and Edwin Aldrin were put into orbit on 11 Nov., 1966 in **GEMINI XII**. They were the first astronauts to take photographs of the solar eclipse from outer space.

THE APOLLO PROGRAMME

The space programme named 'Project Apollo' was launched in 1962. Its object was to explore scientific lunar data that may facilitate landing of man on the moon. **Apollo 7** was launched on 11 Oct., 1968 with astronaut W. Schirra and two others. The satellite successfully manoeuvred and established rendezvous in space as a first step to the sending of man to moon.

Apollo 8. Launched from Cape Kennedy on 21 Dec., 1968, it had three astronauts aboard - Frank Borman, James Lovell and William Anders. Gliding in the endless space, it reached the Lunar orbit just 111 kilometres away from the moon. After orbiting Moon ten times, the spaceship tore itself away from the Lunar orbit and returned to earth safe and sound. This feat opened up fantastic new frontiers of scientific probe into the mysteries of heavenly bodies and helped the USA steal a march over the USSR in space exploration. **Apollo 9** was launched on 3 Mar., 1969 to test the flight trustworthiness of the Lunar Module (LEM), the vehicle meant to carry the astronauts from Lunar orbit to the Moon surface. It had aboard Col James McDivitt, Col. David Scott and civilian Russell Schewickart.

Apollo 10. Astronauts Col. Thomas Stafford, Commander John Young and Commander Eugene Cernan were shot into space on 18 May, 1969 on a perilous adventure as also extremely useful probe for the moon-landing later. Hurling through the equigravispere, they rocketed into the Lunar orbit on 22 May for a two-and-a-half-day orbit and manoeuvres. As the spacecraft passed behind the moon and flashed out of contact with the earth for 34 minutes, the astronauts fired the service propulsion system rocket engine to slow down the speed and to softly pass into the gravitational grasp of the moon. On their second day in the lunar orbit, astronauts Thomas Stafford and Eugene Cernan crawled through a three-foot tunnel into the spidery lunar module (LEM) and separated from the mother-ship on a hair-raising seven-hour lunar adventure. (Astronaut John Young continued to circle round the moon in the mother-ship.) They tested the LEM's landing radar and devoted considerable time photographing potential landing sites and studying lunar landmarks.

Immediately after the second pass near the moon surface, the LEM's rockets were fired to rejoin the waiting mother-ship. After about 60 hours' revolving round the moon, the Apollo X crew started back home by inserting their craft into a trans-earth

trajectory. They fired the service propulsion engine to increase the craft's speed to the moon-escape velocity of about 6,000 miles per hour, thereby disentangling themselves from the gravitational lock of the moon. They scorched back into the earth atmosphere for a perfect splash-down in the South Pacific, near American Samoa on 26 May, 1969.

Apollo 11. The spaceship had three astronauts aboard - Neil A. Armstrong (38), space commander, Lt. Col. Michael Collins (38), command module pilot and Edwin Aldrin (32), lunar module pilot. After orbiting the earth for $2\frac{1}{2}$ hours, the third stage rocket was activated to take Apollo 11 out of the terrestrial gravity with a speed of 24,000 miles per hour and to put it into the lunar trajectory. Three hours later, it performed the transposition manoeuvre—the command-service module section separated from the launch rocket's third stage, turned around and then docked with the Lunar Excursion Module (named Eagle), stored in the rocket's garage section. On the evening of 19 July, the spacecraft entered the elliptical lunar orbit, ranging between 112 and 158 km above the moon surface.

The Hour of Triumph. At 11-30 p.m. on 20 July, astronauts Neil Armstrong and Edwin Aldrin crawled into the Eagle (LEM) and soon afterwards descended towards the surface of Moon. The whole world waited with bated breath as the Eagle, surveying the landing sites and avoiding large and small craters, touched down softly on the moon in the Sea of Tranquility at 1.47 a.m. on 21 July. The most triumphant hour had struck for the earthly man. Six hours and 39 minutes later, Neil Armstrong stood on the top of lunar surface at 8-26 a.m., followed 20 minutes later by Edwin Aldrin. Armstrong's first words on the celestial surface were "That's one small step for man, one giant leap for mankind". They walked on the moon, dug up and collected about 27 kilos of moon dust and rocks, set up three scientific experiments, radioed live television programme for viewers on earth, planted the US flag and after exploring the moon surface for over two hours, returned to the Eagle for a well-earned rest. At 11-23 p.m., the Eagle's ascent engine fired perfectly to bring back the astronauts to the waiting mother-ship in the moon orbit. On 22 July, they headed towards earth and after gliding in the inky space for 400,000 kilometres splashed down in the Pacific Ocean on 24 July, to be welcomed back home by President Nixon and other dignitaries. Immediately on landing, the astronauts and the moon rocks were put under a three-week quarantine in a three storeyed building called the Lunar Receiving Laboratory (LRL), as a preventive measure against any possible germs that they might have brought to earth.

Apollo 12. The Apollo 12 flight was launched on 14 Nov., 1969. It was designed to execute a more extensive "geological traverse" and to carry to and set up on the Moon an elaborate "Apollo Lunar Scientific experiments package" consisting of a seismometer, magnetometer, a solar windmeter, a detector and another laser reflector. The Apollo 12 astronauts were Charles Conrad,

Alan Bean and Richard Gordon. The first two landed on the Moon, this time in the "Sea of Storms" in the western mare of the Moon and explored the Lunar surface for more than six hours. 36 hours later, the two astronauts returned to the mother-ship for the return journey. They splashed into Pacific Ocean on 24 November, 1969.

Apollo 13. Launched on 11 April, 1970, the spacecraft had on board James A. Lovell, Fred W. Haise and John L. Swigert. Two days later, a short circuit in an oxygen tank caused an explosion which ruptured the tank, resulting in massive power failure and oxygen leak. With the oxygen and fuel supplies dwindling, the astronauts could not but abandon their moonlanding mission. They barely managed to return to earth making the Lunar Module as their life-boat and consuming its oxygen and fuel supplies with utmost economy. The astronauts splashed back in the Pacific on 17 April to the great relief and rejoicings of the whole earth. **Apollo 14** is planned to be launched in January, 1971. The astronauts would be Alan Shepard, Edgar Mitchell and Stuart Roosa.

MISCELLANEOUS SPACE TERMS

Apogee. The distant most point which an artificial Earth satellite or the Moon attains during its revolution about the Earth.

Blue Giants. Strongly bright and extremely hot galaxies which are believed to be on the outer limits of the universe. These heavenly bodies are found to be sending out blue and ultraviolet light but emit no radio waves.

Cislunar. It denotes the space between Earth and the Moon.

Cosmodrome (as against aerodrome on Earth). Word of Russian coinage denoting a space station or base from which inter-planetary flights will be launched and the spacecraft and their crews provided with necessary supplies.

Cosmology. The science or an enquiry into the origin and evolution of the entire cosmos.

Cosmvision. Russian-coined word meaning the telecast from space.

Count-Down. Mechanical and procedural checks preliminary to the launching of a satellite in particular under (artificially created) conditions similar to those likely to be encountered during the actual flight. The drill runs in the reverse order e.g. Ten, nine eight... ..two, one, go.

Cryogenics. The science of ultra-low temperatures ranging between -150°F and -459.7°F, the latter point being known as the absolute zero. At this point, all thermal motion of the atom grinds to a stop. This science would prove extremely useful in refrigeration, surgery, rocketry and supersonic transport.

Equigravisphere. A point in interplanetary space etc. where the gravity is constant.

Eros. An asteroid, 15 miles long and 5 miles wide, revolving round the sun and occasionally crossing the orbit of Earth. In 1975, its position would be within 14 million miles of Earth when the scientists plan to attempt a manned landing on it and to later make it a space station for inter-stellar flights.

EVA. It stands for extra-vehicular activity and represents the jobs performed by the American astronauts on the Moon surface.

Geodesy. The study of science of the terrestrial globe.

Gravity Hill. A point immediately beyond equigravisphere where Moon's gravity exceeds that of Earth.

Intelsat. It stand for International Communications Satellite, three of which are being set up by the 68-nation INTELSAT Consortium, formed in 1964, for facilitating global communications on commercial lines. India will avail of this facility in 1970 when her Arvi (Poona) earth station starts functioning.

Moon Car. The four-wheeler that the Apollo 16 astronauts will drive on the Lunar surface in March, 1971.

Nano-Second. The new measure of time (in the present space age) representing one-billionth of a second.

Ogo-5. Also called Orbital Geophysical Laboratory, it was fifth such laboratory, launched by the USA on 4 March, 1968. It is meant to study the complex relationship of the environments of the sun and the earth.

Ogo-6. A solar observatory, launched by the USA and fitted with telescopic eyes to study solar flares and sunspots. It is capable of scanning about 16,000 points on the sun's surface.

Perigee. The nearest most point that an artificial satellite or the Moon attains during its orbit round the Earth.

Pulsars. These are unidentified heavenly bodies which are the sources of cosmic radio emissions that were accidentally discovered by some British scientists in 1967. Pulsars are mysterious radio beacons in space pulsating energy with fantastic precision and regularity.

Quasars. Quasi-Stellar Radio Sources (Quasars) are bizarre extragalactic objects -- extremely bright -- radiating prodigious amounts of radio and optical energy. First detected in 1961, these sources, also called quasi stars or quasi stellar objects, constitute one of the fundamental astronomical discoveries of the 20th century as they represent a combination of characteristics unlike anything previously known in the universe. They may be the first evidence of the existence of a new type of energy source. These sources are anything like 1,000 million light years away from our galactic system.

Sea of Storms. The place on Lunar surface where the Apollo 12 astronauts had landed

Sea of Tranquility. The place on the Moon surface where the Apollo 11 astronauts had landed.

Van Allen Radiation Belts (Layers). These are concentric zones of charged particles trapped in the magnetic field of the earth, extending from 400 miles to 40,000 miles above (the earth). Not

uniformly thick, the belts are most intense over the equator and relatively free above the poles. These particles arise from such sources as cosmic rays, the sun and high-altitude man-made nuclear explosions. The belts are important in connection with satellite navigation and communications.

SPACE RESEARCH IN INDIA

The Thumba Project

Being world's only land-based rocket launching station on the magnetic equator, Thumba has placed India on the map of rocketry for peaceful purposes. The station was established in 1962 at a distance of about 11 miles north of Trivandrum, in response to the United Nations proposition of that year for extensive synoptic sounding rocket programmes in meteorology, astronomy, ionosphere, solar activity and the earth's magnetic field. The Government of India had earlier set up the Indian National Committee for Space Research (INCOSPAR) under the Department of Atomic Energy (which has now been taken over by the National Institute of Sciences, New Delhi).

A good number of rockets have been launched from Thumba so far. They are of three types—Nike-Apaches and Judi Darts from the U.S. Space Agency and Centaures from France. These rockets are employed to study the ion distribution in the upper atmosphere as also to measure wind velocity, diffusion and turbulence (at a height of 80-180 kms.), electron density and temperature at high altitudes. While the rockets and other equipment have been supplied by some foreign countries, the launching is being done by the Indian scientists.

Prime Minister Indira Gandhi, on 2 February, 1968, dedicated the Thumba Station to the world scientific community for use as an international rocket-launching facility. A Nike-Apache rocket was also fired from the Station. On 31 August, 1968, the Indian made two-stage sounding rocket "Rohini MSV 1" was successfully flight tested from the Thumba firing pads. Developed at the Space Science and Technology Centre (near Thumba), the rocket was capable of penetrating 60 kilometres deep into the atmosphere. A new rocket named *Menaka* is being developed at Thumba. This will replace the imported rockets, at present in use. Dr. Vikram Sarabhai, Chairman INCOSPAR, on 21 Nov, 1968, claimed that India could fabricate and launch her own rockets which could reach a height of 30 kilometres. He hoped to develop a (modest) satellite launched by 1970. According to a recent agreement, Russia-manufactured solid-fuelled rockets having range of about 100 kilometres will be launched from Thumba, under a joint India-USSR programme, to conduct meteorological investigations.

A new rocket launching station is being established at Sriharikota, 17 km. from Sullurpet in Andhra Pradesh coastal area. Estimated to complete in about three years, the station was likely to be commissioned in 1971 to serve as the second rocket launching centre in India.

Communication Satellite

A \$300-million communication satellite is being launched over the Indian Ocean, orbiting round the earth at the same speed as earth's rotation on its own axis, thus appearing stationary for all practical purposes to viewers from earth. Another inland satellite is also being contemplated to ease the flow of communication throughout the length and breadth of the country. When in use, the satellite would relay TV programmes and provide immense international contacts. The Indian Ocean satellite will be put by world's consortium of 68 countries and will be world's third satellite of its kind, the earlier ones having been launched over Atlantic (Early Bird) in 1965 and over Pacific in 1967.

Satellite Communication Earth Station.

On 6 September, 1967, an Experimental Communication Earth Station (one of the 22 existing at present in the world) was installed at Ahmedabad. It radioed TV pictures to Japan and Australia in collaboration with the ATS II, a United States communication satellite. This will, in addition, greatly facilitate communication traffic between distant countries. The second station is being set up at Arvi (Poona) and the third at Dehra Dun.

LATEST IN SPACE RESEARCH

Ref. Pages 459-460

Luna XVII. Launched ^{on} 11 Nov. 1970, this Russian spacecraft (with moon buggy *Lunokhod*) soft-landed on Moon on 17 Nov. and placed on the lunar surface Earth's first self-propelled vehicle, which later moved about performing "planned experiments."

THE REPUBLIC OF INDIA

Q. What are the Constitutional functions of the Supreme Court of India ? (about 250 words) (I.A.S., 1970)

Ans. The Constitutional functions of Supreme Court concern both its original and appellate jurisdiction. They relate to matters regarding the interpretation of the provisions of the Constitution, which arise between the Union and the States or between the States themselves. In other words, any question of law or fact on which the existence or extent of a legal right depends, comes within its jurisdiction. Under Article 32(2), the Supreme Court is empowered to issue directions or orders in the nature of the writs of *habeas corpus*, *mandamus*, prohibition, *quo warranto* and *certiorari*, or any of them, for the enforcement of fundamental rights. The Supreme Court is, in fact, the guardian of the liberties and fundamental rights of the citizens of India. It can declare a law passed by a legislature null and void if it encroaches upon the fundamental rights guaranteed under the Constitution.

In Constitutional matters, an appeal lies to the Supreme Court from the decision of a High Court whether in civil or criminal proceedings if the High Court certifies that the case involves a substantial point of law as to the interpretation of the Constitution. It is important to note that Supreme Court's constitutional functions are in such matters not exclusive; they are concurrent, meaning thereby that the High Courts have also the same jurisdiction.

Under its advisory jurisdiction, the President can refer to it any question of law or fact which is of considerable public importance for its opinion. The Supreme Court is thus the custodian of Constitution and the highest forum for its interpretation.

Q. Write short notes on the following :

(i) The electoral college for the election of the President of India. (ii) Composition of the Union Parliament of India (30 to 35 words). (iii) The doctrine of Judicial Review (50 words). (iv) The National Flag of India (50 Words). (I.E. & S.S., 1970)

Ans. (i) The electoral college for the election of the President consists of the elected members of both Houses of Parliament and the elected members of the State legislative assemblies. (ii) The Union Parliament of India consists of the President and the two Houses known as Rajya Sabha and Lok Sabha. The maximum strength of the two Houses is fixed at 250 (12 nominated) for Rajya Sabha and 525 (25 from the Union Territories) for the Lok Sabha. (iii) Judicial review represents the competence of the Supreme Court to protect the citizens' fundamental rights as also the institutions, set up under the Constitution. It has been assigned the role of preventing the executive and the legislature from violating the rights and freedoms of the citizens. It has the powers to nullify an executive order or an Act passed by the Parliament or by a State legislature, by declaring it *ultra vires* the Constitution. (iv) See page 510.

Q. In a concise manner state the five principal kinds of forests in India. (*Indian Forest Service, 1970*)

Ans. The five types of forests in India are : (i) *Evergreen forests* occurring in regions of abundant rainfall (West Coast and the Himalayan region) ; (ii) *Deciduous forests* occurring in places of medium rainfall (Deccan) ; (iii) *Dry forests*, occurring in the arid regions (Rajasthan) ; (iv) *Hill forests*, occurring at an elevation of 5,000 ft. in the South and 3,000 ft. above sea level in the Himalayas ; (v) *Littoral forests*, occurring in the deltaic regions of Indus, Ganges and Mahanadi.

Q. (a) Name any five Fundamental Rights guaranteed in the Indian Constitution.

(b) Who appoints the following :—

(i) The Governor of a State in India. (ii) Judges of the High Court in India. (iii) The Attorney General of India. (iv) The Chief Minister of a State. (v) The Prime Minister of Britain.

(*Cent. Info. Ser., 1970*)

Ans. (a) Right to equality, right to freedom, right against exploitation, right of minorities and right to property.

(b) (i) The President. (ii) The President in consultation with the State Governor, the Chief Justice of India and the Chief Justice of the State High Court. (iii) The President. (iv) The Governor of the State. (v) The British Sovereign.

Q. Where in India are the following located ?

(i) National Botanical Gardens. (ii) Hindustan Aircraft Factory. (iii) School of Tropical Medicine. (iv) National Metallurgical Laboratory. (v) Tata Institute of Fundamental Research.

(*Engg. Ser. Electronics, 1970*)

Ans. (i) Lucknow. (ii) Bangalore. (iii) Calcutta. (iv) Jamshedpur (Bihar). (v) Bombay.

Q. How is the Vice-President of India elected ? What are his functions? (*Geologists, 1970*)

Ans. See page 499.

Q. (a) Who appoints the following, and how long can they stay in Office :—

(i) Members of the Union Public Service Commission. (ii) The Chief Justice of a High Court. (iii) The Governor of a State

(b) What are the qualifications for the election of a person as the President of India? (*Stenographers, 1970*)

Ans. (a) (i) Members of the Union Public Service Commission are appointed by the President. They have a term of six years or until they attain the age of 65 whichever is earlier. (ii) The Chief Justice of a High Court is appointed by the President in consultation with the State Governor and the Chief Justice of India. He holds office until he attains the age of 62. (iii) The Governor of a State is appointed by the President for a term of 5 years which can be extended.

(b) The candidate for election as President must be a citizen of India, not less than 35 years of age, eligible for election as a Member of the Lok Sabha and not holding any office of profit under the Central or State Governments.

Q. Answer the following : —

- (i) What are the powers of the Legislative Assembly of a State of the Indian Union (Answer in 50 words). (ii) Who appoints the Chief Election Commissioner? Who is the present incumbent of this post? Where is his headquarters? (Answer in 30 words). (iii) Who gave the slogans 'Jai Hind' and 'Jai Jawan, Jai Kisan'?

(Clks. Gde., 1970)

Ans. (i) See page 506. (ii) The Chief Election Commissioner is appointed by the President. The present incumbent is Mr. S.P. Sen-Varma. He has his headquarters at New Delhi. (iii) Netaji Subhash Bose and Lal Bahadur Shastri, respectively.

Q. (a) Name the following :

- (i) The State of the Indian Union which has the highest literacy. (ii) The State of the Indian Union which has the largest forest lands. (iii) The State of the Indian Union which has the largest arid lands.

(b) Name the State of the Indian Union which leads in the production of the following :—

- (i) Sugar-cane, (ii) Cotton, and (iii) Coffee.

(Clks. Gde., 1970)

Ans. (a) (i) Kerala (ii) Assam (iii) Rajasthan.

(b) (i) U.P. (ii) Maharashtra (iii) Mysore.

Q. Name the places where the following are located :—

Hindustan Shipyard, Equatorial Rocket Launching Station, Capital of Madhya Pradesh, Headquarters of North Eastern Railway, International Airport in West Bengal, Important Hill Station in Rajasthan and Diesel Locomotive Works.

(I.M.A., May, 1970)

Ans. Visakhapatnam; Thumba near Trivandrum (Kerala); Bhopal; Gorakhpur; Dum Dum; Mount Abu and Varanasi, respectively.

Q. In which place is each of the following located :

- (i) National Defence Academy, (ii) Integral Coach Factory (iii) Machine Tool Prototype Factory, (iv) National Dairy Research Institute, and (v) National Institute of Sports. (I.M.A., May, 1970)

Ans. (i) Kharakvasla, (ii) Perambur (Tamil Nadu), (iii) Ambernath near Bombay, (iv) Karnal (Haryana) and Bangalore (Mysore), (v) Patiala (Punjab).

Q. (a) What are the qualifications to be satisfied by a candidate for the election as a President of India? (About 80 words).

(b) How is the President elected? (About 60 words.)

(c) In what manner can the office of the President be vacated? (About 40 words).

(d) What are the powers of the President with respect to Parliament? (About 80 words).

(N.D.A., May, 1970)

Ans. (a) See page 498. (b) See page 498

(c) The office of the President can be vacated on completion of his term, on his resignation or his removal from office. The President can be removed from office for violation of the Constitution by means of a resolution of the Parliament passed with a

majority of at least two-thirds of the total membership of the House in accordance with parliamentary procedure prescribed in the Constitution.

(d) *See page 499.*

Q. Where are the following located :—

(i) The Film Institute of India, (ii) National Defence College, (iii) National Aeronautical Laboratory, (iv) Central Building Research Institute, (v) The Diesel Locomotive Works.

(N.D.A., May, 1970)

Ans. (i) Poona (ii) New Delhi (iii) Bangalore (iv) Roorkee (v) Varanasi.

Q. (a) What is the Preamble to the Constitution of India? (6 lines)

(b) (i) Name the first President and the first Vice-President of the Indian Republic (ii) Mention the date on which India became a Republic.

(c) (i) How is the President of India elected? (5 lines). (ii) What are the essential qualifications for election as President? (4 lines). (iii) How long does the President hold office? (1 line)

(d) (i) Name the Chairman and the Deputy Chairman of the Rajya Sabha. (ii) What is the duration of the term of the Rajya Sabha? (2 lines).

(e) (i) Mention the functions of the Supreme Court of India. (ii) How long do the Judges of the Supreme Court hold office? (iii) Who is the Chief Justice of the Supreme Court?

(I.N., July, 1970)

Ans. (a) *See page 494.* (b) (i) Dr. Rajendra Prasad and Dr. S. Radhakrishnan respectively. (ii) 26 January, 1950.

(c) (i) to (iii) *See page 498.*

(d) (i) Vice President G.S. Pathak and Shri B.D. Khobargade. (ii) The Rajya Sabha is a permanent body, one third of its members retiring on the expiration of every two years.

(e) (i) *See page 502.* (ii) Till the age of 65. (iii) Mr. Justice Mohd. Hidayatullah. He is scheduled to retire in December, 1970.

Q. (a) Who is entitled to vote at general elections in India? Which authority controls such elections? What steps have been taken to ensure its independence from the Executive?

(b) **What are the qualifications required for appointment as Governor of an Indian State? Who appoints him and for what period?**

(c) **How is a ministry formed? Can any one who is not a Member of the Legislature be appointed a Minister?**

(Asstt. Gde., 1969)

Ans. (a) A person who is a citizen of India and is 21 years of age is eligible to vote. The Election Commission, headed by the Chief Election Commissioner, controls the elections. With a view to ensuring independence of the Election Commission from pressure and influence of the executive, the Constitution provides that the conditions of service of the Chief Election Commissioner cannot be varied to his disadvantage after his appointment and he cannot be removed from office except in the manner or on the like grounds as a Judge of the Supreme Court.

(b) See page 505.

(c) The leader of the majority party in the legislature is called upon by the President or the State Governor to form a government. The Ministers of his Cabinet are appointed by the President or the Governor on his advice. The Prime Minister or the State Chief Minister can have a person, who is not a member of the legislature, appointed a Minister but the latter will have to get elected to the legislature within six months of such appointment.

Q. Mention the place in India where the following are located :—

(i) Central Electronics Engineering Research Institute, (ii) National Botanical Gardens, (iii) Indian Institute of Petroleum, (iv) Fuel Research Institute, (v) Regional Research Laboratory.

(*Assst. Gde., 1970*)

Ans. (i) Pilani (ii) Lucknow (iii) Dehra Dun (iv) Jealgora (Bihar) (v) Hyderabad (also at Jammu, Jorhat, Bhubaneswar).

Q. (i) Name the Governors-General of the Indian Union after Independence. (ii) Who were the Acting Presidents of the Indian Republic after the death of Dr. Zakir Hussain. (iii) What are the functions of the Speaker of the Lok Sabha? (I.N., Dec., 1969)

Ans. (i) Lord Louis Mountbatten and Shri C. Rajagopalachari. (ii) Shri V.V. Giri and Mr. Justice Mohd. Hidayatullah. (iii) See page 501.

Q. (a) What procedure is required to be followed if a new State is to be formed by separation of territory from any State of the Indian Union? (Not more than 60 words).

(b) When and for how long can the Vice-President act as President of India? (Not more than 75 words).

(c) By whom and how often is Finance Commission constituted? What are its duties? (Not more than 75 words) (I.A.S., 1969)

Ans. (a) According to Article 3 of the Constitution, Parliament may by a simple majority form a new State by separation of territory from another State. However, before introducing such a bill in either House of Parliament, a Presidential reference has to be made to the legislature of the State whose boundaries would be affected, for its opinion, which opinion may not be binding. The law creating a new State must also have provisions for amending the First Schedule of the Constitution.

(b) The Vice-President discharges the functions of the President during the latter's absence or inability to perform his functions or on his death, resignation or removal. In the last three cases, he discharges the functions of the President till a new President is elected and enters upon his office but for a maximum period of six months.

(c) Under Article 280 of the Constitution, the President is required to set up a Finance Commission within two years of the commencement of the Constitution and thereafter every five years or earlier. The Finance Commission is required to make recommendations to the President as to (i) the distribution of taxes between

the Union and the States, (ii) the principles which should govern grants-in-aid of the revenues of the States out of the Consolidated Fund of India, and (iii) any other matter referred to it by the President.

Q. (a) What are the powers and functions of the Lok Sabha?

(b) What Fundamental Rights are guaranteed to the people by the Constitution of India?

(c) What are the qualifications for appointment as the Governor of a State? Who appoints him? What is his term of office?

(d) What are the discretionary powers of the Governor of a State?

(*Stenographers, 1969*)

Ans. (a) See page 501.

(b) The Right to Equality (Equality before the law without discrimination of religion, race, caste, sex or place and equality of opportunity in matters of employment etc.) ; Right to Freedom (of expression and speech, assembly, association or union, profession or occupation) ; Right against Exploitation ; Right to Freedom of Religion ; Right of Minorities ; Right to Property and Right to Constitutional Remedies.

(c) A person to be appointed a Governor must be an Indian citizen and above 35 years of age. He is appointed by the President for a term of five years.

(d) See page 505.

Q. Where and with whose collaboration have the major steel plants been set up in India in the public sector?

(*Stenographers, 1969*)

Ans. Rourkela (Orissa), German ; Bhilai (M.P.) Russian ; Durgapur (W. Bengal), British ; Bokaro (Bihar), Russian.

Q. Give the place of location and the State in which each of the following is situated : —

(i) Hindustan Antibiotics Ltd. (ii) National Defence Academy (iii) National Defence College (iv) Forest Research Institute (v) Indian Institute of Sugar Technology (vi) National Metallurgical Laboratory (vii) Mazgaon Docks (viii) Hindustan Aircraft Ltd. (ix) Heavy Electricals Ltd.

(*S.C.R.A. 1969*)

Ans. (i) Pimpri (Maharashtra). **(ii)** Kharakvasla (Maharashtra). **(iii)** New Delhi. **(iv)** Dehra Dun. **(v)** Kanpur (U.P.). **(vi)** Jamshedpur (Bihar). **(vii)** Bombay (Maharashtra). **(viii)** Bangalore (Mysore). **(ix)** Bhopal (Madhya Pradesh).

Q. Write a short descriptive note of 80 to 100 words on the following topics :—

(a) Directive Principles of State Policy in the Indian Constitution. **(b)** Panchayati Raj.

(*Cent. Info. Ser., 1969*)

Ans. (a) See page 497 (b) See page 538.

Q. What is the proposed outlay for India's Fourth Five Year Plan and when is it scheduled to begin?

(*Geologists, 1969*)

Ans. The Fourth Five Year Plan envisages an outlay of Rs. 24,882 crores, made up of the public sector outlay of Rs. 15,902 crores and the private sector outlay of Rs. 8,980 crores. The public sector outlay of Rs. 15,902 crores is composed of expenditure

by Centre (Rs. 8,090 crores), States (6,606 crores), Union Territories (425 crores) and for centrally sponsored schemes, (781 crores). The Plan takes effect from 1 April, 1969.

Q. (a) What is the form and nature of the government in India as set up in the Constitution? When and by whom was the Constitution adopted? (Answer in 40 words).

(b) Name any three States of the Indian Union which at one time or the other remained under President's rule during 1968. Name also the Governors of those States.

(c) Where is the Supreme Court of India located? Who appoints the Chief Justice of India, and how long can he remain in this office? (Answer in 30 words). (Clks. Gde., 1969)

Ans. (a) The structure of the government as set up by the Constitution is federal and parliamentary. The Constitution was adopted by the Constituent Assembly on 26 November, 1949 and it came into force on 26 January, 1950.

(b) Punjab (D.C. Pavate); U.P. (B. Gopala Reddy) and West Bengal (Dharma Vira). The present Governor of West Bengal is Mr. S.S. Dhawan.

(c) The Supreme Court is located in New Delhi. The Chief Justice is appointed by the President and he holds office up to the age of 65 years.

Q. Name the following :—(i) Biggest State of the Indian Union in area. (ii) Biggest State of the Indian Union in population. (iii) Most densely populated State of the Indian Union (iv) Name the State which leads in the production of the following : (a) Rice, (b) tobacco, and (c) rubber. (Clks. Gde., 1969)

Ans. (i) Madhya Pradesh **(ii)** U. P. **(iii)** Kerala **(iv) (a)** Andhra Pradesh **(b)** Andhra Pradesh **(c)** Kerala.

Q. (a) What are the Judicial Powers of the Governor? (b) When does the Union Cabinet resign? (J.M.A., Apr., 1969)

Ans. (a) The State Governor is empowered to remit or commute the sentence of any person and to grant pardons, reprieves, respites or remissions of punishments. **(b)** The Union Cabinet resigns : **(i)** when it loses confidence of the majority of the Members of Parliament, **(ii)** when it suffers defeat at the floor of the house, **(iii)** when the Prime Minister wants to effect major changes or reconstitution of the Cabinet and **(iv)** when after the elections, a new government has to be formed. It must, however, be understood clearly that the Cabinet stays or goes with the Prime Minister.

Q. Answer the following :—(a) Who appoints the Governor of a State in India? (b) For what period is the Governor of a State appointed? (c) What are the qualifications for appointment as a Governor? (d) Who presides over the meetings of the Rajya Sabha? (e) What is the main difference between Fundamental Rights and Directive Principles of State Policy? (f) How is the Judge of a High Court in an Indian State appointed? (g) For what period does the Judge of a State High Court hold office?

(N.D.A., May, 1969)

Ans. (a) The Union President. **(b)** Five years. **(c)** The person to be appointed a State Governor must be an Indian citizen and

of the age of 35 years or more. (d) The Vice-President of India. (e) The Fundamental Rights are enforceable through courts of law, i.e., the denial of a Fundamental Right to an individual by the State can be challenged in a court of law and got remedied. The Directive Principles of State Policy, though fundamental in the governance of the country, are only guidelines for the Union and State governments and cannot be enforced through courts of law. (f) A High Court Judge is appointed by the President in consultation with the Chief Justice of India, the Governor of the State, and in the case of appointment of a Judge other than the Chief Justice, the Chief Justice of the particular High Court. (g) High Court Judge holds office until he attains the age of 62 years.

Q. Where are the following located :—(i) Air Force Flying College (ii) Birla Planetarium (iii) Central Building Research Institute (iv) Central Drug Research Institute (v) Golden Temple (vi) Indian Institute of Science (vii) Jama Masjid (viii) Meenakshi Temple (ix) National Physical Laboratory (x) Taj Mahal.

(N.D.A., May, 1969)

Ans. (i) Jodhpur (ii) Calcutta (iii) Roorkee (iv) Lucknow (v) Amritsar (vi) Bangalore (vii) Delhi (viii) Madurai (Tamil Nadu) (ix) New Delhi (x) Agra.

Q. Who was the first President of India ? (ii) Who was the first Vice-President ? (iii) How is the President elected ? (iv) What are the essential qualifications for election to the office of the President ? (v) How long does the President hold office ?

(I. N., July, 1969)

Ans. (i) Dr. Rajendra Prasad (ii) Dr. S. Radhakrishnan (iii) The President is elected by an electoral college consisting of the elected members of both Houses of Parliament and the elected members of the Legislative Assemblies of the States. The voting is in accordance with the system of proportional representation by means of the single transferable vote. (iv) The President must be a citizen of India, not less than 35 years of age, eligible for election as a member of the House of the People (Lok Sabha) and not holding an office of profit under the Central or State governments. (v) The President's term of office is five years unless he resigns his office earlier or is removed from office for violation of the Constitution.

Q. What is meant by 'President's Rule' ? What safeguards have been provided in the Constitution to ensure that such rule does not become permanent nor does it become anti-democratic ? (Not more than 150 words).

(I.A.S. 1968)

Ans. President's rule means assumption, by the President of India, of all legislative and executive powers which, in normal circumstances, are exercisable by the State Cabinet and the legislature, thus suspending the autonomy of the State concerned and bringing it completely under the authority of the Union. Under Article 356 of the Constitution, the President is empowered to take this extraordinary step if he is satisfied that the government of the State cannot be carried on according to the provisions of the Constitution. However, the Presidential proclamation, thus issued,

ceases to be effective beyond two months unless it is approved by both Houses of Parliament. It is operative for six months at a time unless its life is extended by the Parliament every six months and to a maximum period of three years. This extraordinary step does not smack of anti-democratic practice because of the fact that the President issues this proclamation on the advice of the Cabinet which, in turn, is responsible to the Parliament (wherein also sit the representatives of the State concerned). Moreover, under the circumstances, the State Government merges with the Union Government, the Parliament having taken over the legislative functions of the State. Thus it is only the State autonomy that suffers temporarily.

Q. Explain the implications of India being a Secular State.
(Answer not to exceed 120 words).

Ans. A secular State is a State which "is neither religious, nor irreligious nor anti-religious but is wholly detached from religious dogmas and activities". It does not patronise any religion nor does it discriminate against any and is thus scrupulously neutral in religious matters. At the same time, it does not banish God or prohibit worship. On the other hand, it is an essential corollary of democracy. India, as a secular State, treats all citizens with equality and allows them equal opportunities, political, economic and social, without prejudice to their faith or creed, colour or caste. No discrimination can be practised in matters of rights or privileges or recruitment to various services. Secularism has a special justification in a country like India, which is the cradle of many religions. The minorities, their religion, language and religious as well as educational institutions are protected. No educational institutions, financed entirely by public funds, can compel students to participate in any religious instruction or worship conducted in it. Observance or propagation of untouchability has been strictly banned.

CHAPTER 17

THE LAND AND THE PEOPLE

Geographical Position

India is the seventh largest country in the world. Standing at the head of the Indian Ocean, it has a central place in Southern Asia. Lying entirely in the Northern Hemisphere, the country is situated between latitudes 8° and 37° north and longitudes 68° and 97° east. The Tropic of Cancer passes right through the middle of the country, cutting it roughly into two halves. From this line India extends almost equal distance—north and south— 13° northwards and 15° southwards. The northern portion is a vast fertile flat land comprising the entire Gangetic Plain and the eastern portion of the Indus Plain. The southern portion, a triangular mass, tapers off into the Indian Ocean between the Bay of Bengal on the east and the Arabian Sea on the West, its apex being Cape Comorin.

Boundaries and Area

In the north, India is bounded by the Muztagh, the Aghil and the Kuenlun mountains north of Kashmir and the Himalayas adjoining the Tibet and Nepal. In the east lie East Pakistan and Burma and in the north-west, West Pakistan and Afghanistan. In the south, Gulf of Mannar and the Palk Straits separate India from Ceylon. The Andaman and Nicobar Islands in the Bay of Bengal and the Laccadive, Minicoy and Amindivi Islands in the Arabian Sea are parts of India.

Measuring about 3,219 kilometres (km.) from north to south and about 2,977 km from east to west, India covers an area of 32,76,141 sq. km. including the 7,107 sq. km. area of Sikkim. It has a land frontier about 15,168 km. long and a coastline of 5,689 km. It occupies an important place in the international trade. Standing at the head of Indian Ocean and commanding the major sea routes between Europe and the East, she can easily and gainfully trade with Europe, Africa and Americas on the one hand and China, Japan and Australia on the other.

Physical Features

India has three well-defined physical divisions. They are : 1. The Mountainous Region or the Himalayan Region. 2. The Indo-Gangetic Plain. 3. The Southern Peninsula or the Deccan Plateau.

The Mountainous Region. The Himalayas (the abode of God) comprise three parallel ranges of fold mountains, crumpled against the plateau of Tibet. These hills are interspersed with large plateaus and valleys like those of Kashmir and Kulu. The mountainous system is a huge snow-capped barrier and some of world's highest peaks are to be found in these regions. About a hundred peaks exceed height of 20,000 ft. above sea level and one of them, Mount Everest (though not in India proper) is the highest in the world. Himalayan complex itself has three parallel ranges, namely (i) a range of foothills known as Shivalik Hills on the western side with low flat lands, called *duns*, behind them, composed of sediment and river gravels washed down from the higher

ridges ; (ii) the Lower Himalayas rising to an altitude of six to twelve thousand feet ; and (iii) the main Himalayan ridge towering on an average over 20,000 ft. high and perpetually snow-bound. This mountainous barrier extends over a distance of about 2,400 km. with a depth varying between 240 and 320 km. The hilly regions in the East adjoining East Pakistan and Burma are comparatively low.

The Indo-Gangetic Plain. South of the Himalayas lies the extensive Indo-Gangetic Plain, stretching from the Ravi river in the West to the Garo and Lushai Hills in the East. About 2,414 km. long and 250 to 325 km. broad, the plain is formed by the basins of three distinct river systems namely the Indus, the Ganges and the Brahmaputra. It is one of the world's greatest stretches of flat alluvium. Once, this large area was a sea. Earth movements later uplifted the bed of the sea and the above rivers flowing down the Himalayas completed the work by making the land level. Over thousands of years these rivers and their tributaries struggled against the hills, broke them and brought the sediment down to the plains. This sediment was deposited layer upon layer. The vast Indo-Gangetic Plain is a flat, even land with hardly any variation in relief. While agriculture is the main occupation in the region, this area is also highly industrialised. The rivers flow slowly and are useful waterways and irrigation systems. A network of roads, railways and canals exists. The Plain is also one of the most densely populated regions of the world with flourishing towns.

The Southern Peninsula (The Deccan Plateau). Bounded on the north by the ranges of Vindhyas and Satpuras, on the west by Western Ghats and on the east by Eastern Ghats, the Deccan Peninsula is a plateau ranging from 1,000 to 3,000 feet in height above sea level and broken by hills and river valleys. Sloping towards east, the plateau is of hard rocks, with a thin covering of soil except in the north west where large stretches of black cotton soil are found. Generally the Deccan rivers rise in the Western Ghats and flowing eastwards fall into the Bay of Bengal. They are Mahanadi, Godavari, Krishna and Cauvery. Those which fall into the Gulf of Cambay are Narmada and Tapi.

Climate and Rainfall

There are four recognised seasons in India, namely : 1. Cold Weather Season (December-March); 2. Hot Weather Season (April-May) ; 3. Rainy Season (June-September); and 4. The Season of the Retreating South-West Monsoons (October-November). There are four broad climatic regions based on rainfall. They are as follows :

1. **Areas of heavy rainfall.** Assam and West Coast lying at the foot of the Western Ghats and extending from Bombay to Trivandrum. Rainfall is over 100 inches. Cheriapunji in Assam is the second wettest place in the world.

2. **Areas of scanty rainfall** (or low precipitation). Rajasthan Desert including Kutch, Ladakh plateau extending westward to Gilgit. Rainfall is less than 20 inches.

3. Areas of moderately high rainfall. Central India and North Indian plains, eastern parts of the peninsula and eastern coastal plains. Rainfall is between 40 and 80 inches.

4. Areas of moderately low rainfall. The belt extending from the Punjab plains across the Vindhya mountains into the western part of the Deccan, widening considerably in the Mysore Plateau. Rainfall is between 20 and 40 inches. (*I. R. S. E., 1960*)

Soils of India

The soil in India is broadly of four qualities namely, (i) alluvial soil, (ii) black soil, (iii) red soil and (iv) laterite soil.

(*I.A.S., 1954*)

The Alluvial Soil. The richest soil is the alluvium of river valleys and plains. The mineral compositions in it are well broken up which can be absorbed easily by the roots of plants. This soil is ideal for Rabi and Kharif crops. It is generally found in Punjab, U.P., Bihar, West Bengal and Assam.

Black Soil. The surface of black lavas of the north-west and the Kathiawad peninsula has broken up into a dark heavy soil. It contains a good deal of iron and can retain moisture. The soil is ideal for cotton growing. It is found in some parts of Maharashtra, Andhra and western parts of Madhya Pradesh.

(*I.A.S., 1958, 1962*)

Red soil. It is found in Madras, Mysore, Bombay and areas of Andhra Pradesh and Madhya Pradesh. Some areas of West Bengal and Uttar Pradesh also have Red Soil.

Laterite Soil. Deposits of yellowish or reddish coloured clay are called the Laterite Soil. These clays are very extensive and of considerable thickness and result from the decomposition of rocks, rich in iron minerals. Laterite is used locally for making mortar, cement and also tiles. It is found in Madhya Pradesh, Assam, Eastern and Western Ghats. These areas are dotted by tea plantations.

The River Systems

The river systems in India may be broadly classified as :—
1. The Himalayan Rivers ; 2. The Deccan Rivers ; 3. The Coastal Rivers ; 4. The Rivers of the inland drainage system.

The Himalayan rivers are perennially flowing rivers because their sources are continuously fed by the melting of snow throughout the year. During the monsoon season, the Himalayas receive very heavy precipitation which results in floods in rivers. The Deccan rivers are generally rain-fed and, therefore, fluctuate very much in volume. Most of these may be called non-perennial streams. The coastal streams, specially of the West Coast, are short in length with limited catchment areas. The streams of the inland drainage basin of Western Rajasthan are very few and are generally lost in the sands, excepting Luni which drains into the Rann of Kutch.

With its two main headwaters in the Himalayas—the Bhagirathi rising from the Gangotri glacier, and the Alaknanda—the Ganges has by far the largest basin and commands one quarter of the total area of India. It has Himalayas in the north and Vindhya mountains in the south. The Himalayan tributaries of the

Ganges and Yamuna—rising in the Yamnотri glaciers—, Ghaghara, Gandak and the Kosi. Yamuna joins the Ganges at Allahabad. Chambal, Betwa and Sone are the Central Indian rivers that join Yamuna or the Ganges. The basins of Brahmaputra in the East (the largest river in India) and the Indus in the West are fairly large and most important on account of their fertility and productivity.

Godavari enjoys the second largest river basin in India, commanding one-tenth of the total area of the country. The Krishna and Mahanadi basins as also those of Narmada and Cauvery are the important basins in the peninsular India. The river systems of Tapti in the north and the Pennar in the south are much smaller in area but are agriculturally most important.

The Forests. In India forests cover an area of 7 lakh sq. km. which comes to 22% of the total geographical area of the country. This area is considered quite small and it is proposed to increase it to 33.3%. The forests in India have a wide variety of trees and shrubbery. They are found generally in the rainy parts of the country—the Himalayas, Western Ghats, Assam, Sunderbans, Terai and Central India. (N.D. 1, May, 1963)

THE MINERALS IN INDIA

Introduction. While the extracting and smelting of ores of gold and other metals were known to the ancient miners of India, little systematic mining was attempted before the last decade of the nineteenth century. However, by 1860, the mineral industry of India began to take shape mainly due to the domestic need for coal, iron, gold, salt and later petroleum. There appeared a profitable foreign market for manganese and mica, the latter being found in very large quantities in India. Monazite found an attractive export trade in 1911 for the gas-mantle industry. World War I stimulated the output of chromite. The copper industry came to be firmly established by 1928-29. The World War II gave impetus to the development of the lead, zinc, mica, aluminium and uranium industries.

After independence, the emphasis shifted from the indiscriminate mining and export of minerals to the conservation of mineral wealth and to development of indigenous industry to utilise the raw materials for the manufacture of finished goods. During the 15-year period of the three Plans, an intensified programme of mineral exploration and exploitation was undertaken. Deposits of manganese, iron ore and chromite were discovered in some parts of Orissa, coal was found at Bankura, lignite in Kutch and extensive geological surveys for oil were conducted in Kangra and Gujarat. Other activities connected with the search for minerals included estimation of reserves of Raniganj and Jharia coal-fields, survey of Karanpura coal-fields, examination of diamonds in Madhya Pradesh, copper in Singhbhum, Chitaldurg and Alwar, lead and zinc in Udaipur, pyrite in Shahbad and manganese ore in Madhya Pradesh. The accent during the Third Plan had been on the exploration of further fields for minerals in the vicinity of the present ones.

Power Resources

Petroleum. India has a potential oil-bearing area of 10,35,920 sq. kilometres in Assam, Tripura, Manipur, West Bengal, Punjab, Himachal Pradesh, Jammu and Kashmir, Rajasthan, Gujarat, Tamil Nadu, Andhra and Kerala Coasts and Andaman and Nicobar Islands. The Oil and Natural Gas Commission, set-up in 1956, has been carrying out exploration for oil in many States. *(N.D.A., May, 1963)*

Coal. There are at present more than 80 individual coal-fields in Assam, West Bengal, Bihar, Orissa, Madhya Pradesh, Maharashtra and Andhra Pradesh. The reserves of coal of different coalfields have been estimated at 120,000 million tonnes to a depth of 600 metres. Metallurgical coal has been estimated at 1,524 million tonnes. Though India has enough deposits of coal, it is deficient in high grade metallurgical coal. With a view to conserving this type of coal, supplies to railways, industries and other consumers are regulated out of the low grade coal. *(P. & T. Clerks, June, 1962)*

Lignite. Lignite, a useful source of energy, has been found to occur in Tamil Nadu, Kerala, Rajasthan and Jammu and Kashmir. Total estimated reserves of this mineral are about 3,530 million tonnes with Neyveli (South Arcot District of Tamil Nadu) holding 3,400 million tonnes. The Neyveli project plans to mine more than 3.5 million tonnes of lignite per year for generation of power, production of fertilisers and manufacture of briquettes for use as fuel. *(I.A.S., 1964)*

Water Power. Power potential studies of the river basins of India indicate an aggregate hydro-electric potential of the order of 411 lakh kw. at 60 per cent load factor.

Mineral Resources :

Iron. The iron ore reserves in India are estimated at 22,400 million tonnes, one-fourth of the total world reserves. Extensive deposits of iron ore exist in Bihar, Orissa and Madhya Pradesh. In addition, low-grade iron ores were recorded in Tamil Nadu, Maharashtra and Andhra Pradesh. Magnetic and spathic ores are also found in some States. India requires about 20 million tonnes of iron ore for her own requirements. Iron ore exports are 15.5 million tonnes, worth nearly Rs. 100 crores. The annual output of iron is, therefore, 35 million tonnes.

Manganese. India ranks third in the world in respect of manganese deposits. Out of estimated reserves of 180 million tonnes, about 140 million tonnes are in Madhya Pradesh, Gujarat, Maharashtra, Bihar, Orissa, Andhra Pradesh and Rajasthan. *(N.D.A., May, 1963)*

Chromite. Its reserves having been estimated at 30 lakh tonnes, chromite occurs in Bihar, Orissa, Mysore, Tamil Nadu and Maharashtra. The mineral was first discovered in Mysore in 1898, in Singhbhum in 1907 and in Keonjhar in 1943. Its industrial uses are in the manufacture of ferrochrome, for special steels, in refractory bricks and in chemicals.

Gold. Gold is found in the Kolar gold-fields in Mysore (Reserves of gold ore : 38 lakh tonnes) and in Hutti gold-mines in Raichur District (Reserves of gold ore : 6 lakh tonnes). Gold also occurs at Ramagiri in Andhra Pradesh and Kuppada Gudda in Mysore, where preliminary work is in progress.

Copper. It is one of the most essential metals used by man dating probably from before the "Bronze Age". Singhbhum in Bihar and Khetri and Daribo in Rajasthan are the two important copper belts in India. The total estimated reserves of copper ore are in the vicinity of 120 million tonnes.

Lead and Zinc. Zarwar mine in the Udaipur District of Rajasthan is the only known source of lead-zinc ores in the country. This mine was discovered by the close of the fourteenth century. Estimated reserves of 20 million tonnes exist in the above mines. A reserve of about 1 million tonnes of combined lead, zinc and copper is said to exist in Mamandur, Tamil Nadu. The total capacity of zinc production in the country is 38,000 tons a year.

Bauxite. Chief deposits occur in Bihar, Jammu and Kashmir, Madhya Pradesh, Tamil Nadu, Maharashtra, Mysore, Orissa and Gujarat. High grade bauxite reserves are estimated at 79 million tonnes.

Mica. Mica is available in Bihar (3,880 sq. kilometres), Rajasthan (3,110 sq. kilometres) and Andhra Pradesh (1,550 sq. kilometres). Bihar produces the world-best quality of mica.

Salt. It is mainly derived from sea from the coastal regions of Gujarat, Maharashtra and Tamil Nadu, from inland lakes in Rajasthan and Gujarat and (to a very small extent) from rock salt deposits in Himachal Pradesh. (*Asstt. Gde., 1963 ; N.D.A. 1963*)

Nickel. It occurs with copper in Jhunjhunu at Khetri, with gold in Kolar and with chromite in Keonjhar. Nickel has also been found at Riasi in Jammu and Kashmir where the ore contains 1.68 per cent nickel. Nickel content in the Manipal ore is 0.9 per cent.

Uranium-Thorium. Monazite, the principal source of thorium, is known to occur in Bihar, Mysore and other States. The sands of the West Coast in Kerala contain monazite. Thorium deposits have been discovered in Bihar and Tamil Nadu. Several occurrences of uranium are reported in Bihar, Rajasthan and Andhra, which are being explored at present.

(*Asstt. Gde., Dec., 1962*)

DEMOGRAPHIC BACKGROUND

Population.* According to the 1961 census, India's population was 439** million, showing an increase of 21.64 per cent during the years over the 1951 census figure of 361 million. Madhya Pradesh, covering an area of 4,43,452 sq. km. is the largest and Uttar Pradesh, with 7,37,46,401 inhabitants, is the most populous

*"We have an enormous population ; 14 per cent. of the world total crowded into just 2.4 per cent. of world's land surface."—President Zakir Husain's broadcast to the Nation, 14 August, 1968.

**According to reliable estimates, India's population was 549 million in July, 1970 showing an increase of 110 million over the 1961 census figures. Out of this number, 440 million were in rural areas.

State. Nagaland with an area of 16,488 sq. km. is the smallest and least populous State. The overall density of population for the country is 138 persons per sq. km. The Union Territory of Delhi has the highest density of population accounting for 1,793 persons and the Union Territory of Andaman and Nicobar Islands has the lowest with only 8 persons per sq. km. Per sq. km. density is fairly high in Pondicherry (781), Laccadive, Minicoy and Amindivi Islands (865), Kerala (435) and West Bengal (398).

(N.D.A. Dec., 1965)

Births and Deaths. Based on the figures of 1951 and 1961 censuses, births had occurred at an average rate of 42 per thousand and deaths at 23 per thousand giving a rate of natural increase of population of 19 per thousand per annum. The infant mortality rate, as obtained in 1958, was 146 per thousand live births. While there is only a small change in the birth rate, the death rate has declined sharply during 1951-1960 resulting in considerable increase in population growth rate for the same period. If the population growth goes unchecked, there will be, it is feared, 1,000 million mouths to feed by the turn of the century.

Assam was highest (49.3) in birth rate per thousand and Madras lowest (34.9). The highest death rate was also in Assam (26.9) and the lowest in Kerala (16.1). The highest natural increase rate (difference between the rates of births and deaths) was in Punjab (25.8) and the lowest in Madras (12.4).

Life Expectancy. The expectation of life, according to the 1961 census, is 41.90 years for males and 40.60 years for females. According to the zonal distribution of life expectancy, the Northern zone stood highest at 49.6 years for males and 44.6 years for females, and the Central zone lowest at 39.8 years and 38.8 years respectively. According to latest official estimates, average life expectancy is now 50 years.

Religious Communities. India enjoys the distinction of being the only country in the world wherein a number of distinct religious groups live and enjoy equality of treatment. "Nowhere do so many linguistically differentiated people, all so self-aware, all in tens of millions, find themselves within a single body politic under a system of federal democracy. Our attempt to build the mosaic of a national culture is also unique. Out of diverse languages, religions and cultures, we are trying to evolve a rich harmonious national ethos". Following are the major religious communities,* of India :—

| <i>Religious Community</i> | <i>Population (in Lakhs)</i> | <i>Percentage to total Population</i> |
|----------------------------|------------------------------|---------------------------------------|
| Buddhists | 32.56 | 0.74 |
| Christians | 107.28 | 2.44 |
| Hindus | 3665.26 | 83.50 |
| Jains | 20.27 | 0.46 |
| Muslims | 469.40 | 10.70 |
| Sikhs | 78.45 | 1.79 |
| Others | 16.11 | 0.37 |

*Figures based on 1961 census.

CHAPTER 18

FROM SLAVERY TO FREEDOM (1850-1950)

IMPORTANT EVENTS OF INDIA'S FREEDOM STRUGGLE

General Awakening. During the latter half of the nineteenth century, the impact of western civilisation, manifesting itself in a better appreciation of the concepts of patriotism, freedom and liberty, roused the Indian people from their medieval torpor. The study of English and uninhibited communication between the people of East and West stimulated thought and activity. Educated Indians gave up their uncritical acquiescence in tradition and custom and began to question even the authority of religion. The resulting ferment gave rise to new movements for social and political reform. Religion was no longer a citadel of reaction. The Brahmo Samaj, the Prarthana Samaj and the Arya Samaj heralded a new era of religious reformation among the Hindus. Similar movements amongst the Muslims and the Sikhs followed close on the heels of these earlier movements.

Formation of the Indian National Congress (1885). The factors that led to an upheaval in the political outlook of the Indian people and then to the formation of freedom struggle were : (i) Introduction in 1833 of English education on the recommendations of Lord Macaulay ; (ii) Religious awakening and the consequent change in socio-religious values ; (iii) Political unity accompanied by peace and minimisation of external threat ; (iv) Sense of frustration among the Indians at British failure to honour their pledges ; (v) British policy of discrimination and their attitude of racial superiority ; and (vi) Agitational approach of some Indian civil servants.

The result of the above factors was the formation of the Indian National Congress in December, 1885 by Mr. A.O. Hume. The first President of the Congress was Mr. W.C. Bonnerji, a Calcutta Barrister of fame. During the first few years of its life, the Congress was profuse in its loyalty to the British Raj. But in the nineties it started agitating for reform and expansion of legislatures, inclusion of Indians in the I.C.S. cadre and reduction in military expenditure. The agitation was launched by constitutional means and in an organised manner. Consequently, some concessions were allowed in the Indian Council Act of 1892.

Partition of Bengal and the Swadeshi Movement (1905). With a view to crippling Bengali nationalism, Lord Curzon, the then Viceroy of India, partitioned Bengal on the pretext of administrative convenience. The action ignited the spark of agitation that later came to be popularly known as the Swadeshi movement. British goods were boycotted and shops dealing in such goods were looted or picketed. Streets of Calcutta and other towns rang with the cries of "Bande Mataram". A class of extremist politicians was born of this upheaval and a terrorist movement was already afoot. The extremists were deported and severely dealt with.

Almost simultaneously, the Government made another series of political and constitutional changes by doling out the Minto-Morley reforms.

Rowlatt Act (1919). To meet the growing threat of agitation and unrest, the British Indian Government passed the Rowlatt Act, arming itself with extraordinary powers to deport the seditious elements, control the press, institute special tribunals to try political offenders and to virtually let loose repression on all nationalist elements.

Jallianwala Bagh Massacre (13th April, 1919). A peaceful public meeting held at Jallianwala Bagh, Amritsar, on 13 April 1919, to protest against the Rowlatt Act, was fired upon without any warning, on the orders of General Dyer. Hundreds of innocent people were killed and many more were injured as a result of the firing. This brutal tragedy gave only another lease of life to the freedom movement. Rabindranath Tagore "flung to the face of the government his title of knighthood. Gandhiji's call to Satyagraha was sealed and sanctioned by the blood that was shed at Jallianwala Bagh".

Khilafat Movement (1920). After the conclusion of World War I, the Allies liquidated the Ottoman Empire which had sided with the Germans, and reduced Turkey to insignificance, territorially and economically. This treatment hurt the religious sentiments of Muslims all over the Islamic world. In India, the Muslim resentment resulted in the Khilafat Movement, led by the Ali Brothers. Mahatma Gandhi too had supported this movement.

Non-Cooperation Movement (1920). Shocked by the happenings after the passage of Rowlatt Act and the Jallianwala Bagh massacre, Mahatma Gandhi launched the Non-Cooperation movement. It envisaged renunciation of government titles, boycotting of government service, legislatures, schools and colleges and non-payment of taxes. This programme was approved by the Congress at its Nagpur Session in 1920. The movement had spontaneous response among all the people in the country but it also resulted in violence at some places particularly Chauri Chaura in U.P. To avoid further bloodshed, the Mahatma withdrew the movement.

Simon Commission (1927). Having realised that Reforms of 1919 had not satisfied the Indian people, the British Government appointed a Statutory Commission in 1927 under the Chairmanship of Sir Johan Simon to submit a detailed report on the working of 1919 Reforms. It was an "all white" Commission with no Indian serving on it. Therefore its arrival in India (in 1928) was boycotted by all political parties.

Purna Swaraj (Complete Independence) Resolution (1929). The Lahore Session of the Indian National Congress in 1929, presided over by Jawaharlal Nehru, passed a resolution declaring that only complete independence was the objective of the Congress Party and nothing less than that would satisfy it.

Dandi March (1930). On 6 April, 1930, Mahatma Gandhi started his Civil Disobedience movement with his historic march

to Dandi to break the salt laws. The movement, aiming at strikes, boycott of British goods and a general attitude of disobedience towards authority, spread to all parts of the country. In the N.W.F.P., the Red Shirt movement was started by Khan Abdul Ghaffar Khan, who later came to be known as the Frontier Gandhi. More than 60,000 people were arrested and jailed. A reign of terror and repression was let loose by the government to arrest the tempo of the movement.

Congress Ministries in the Provinces (1937). The Act of 1935 had allowed unrestricted freedom to the elected governments in some fields whereas interference was possible in others. However, on assurances that the English Governors would not unnecessarily obstruct the normal working of the elected governments, the Congress accepted ministerial office and formed its own Ministries in seven of the eleven provinces. The Ministries, however, resigned in 1940 when the British Government threw India into the throes of war without even consulting the elected governments or the national leaders.

Pakistan Resolution (1940). The Lahore session of the All India Muslim League, under the presidency of Mr. M.A. Jinnah, passed a resolution in March, 1940 that the Muslims were not a minority but a separate nation. It also demanded the creation of a separate Muslim State, called Pakistan, consisting of the Muslim majority provinces of NWFP, Baluchistan, Sind, Punjab and Bengal. Later, Mr. Jinnah's "Two-Nation" theory brought matters to such a head that the vivisection of the country became the only alternative to continued British rule.

"Quit India" Movement (1942). The Cripps Mission of early 1942 had failed to break any new ground and there was a sense of urgency in the Congress camp. Japan was knocking at the doors of India and only an independent united India could stand her ground against the new threat. The Congress Working Committee, therefore, meeting at Wardha in July, 1942, passed a resolution asking the British Government to withdraw from India. The resolution was endorsed at Bombay by the All India Congress Committee on 8 August. The Congress threatened to launch a struggle if the British did not oblige. On 9 August, 1942, all the important Congress leaders including Gandhi were arrested. This precipitate action sparked a mass revolt at many places; the mobs indulged in violence and destroyed public property. The Government replied with extreme measures of repression, harassment and arrests.

Simla Conference (1945). In 1945, Lord Wavell, the British Viceroy, was called to London for consultations by the British Government with regard to the formation of a national government in India composed of representatives of the two major parties. On return to India, Lord Wavell called a conference of important Indian leaders at Simla, whereat he spelled out the Government's proposals and tried to bring about an agreement between the two contending parties. The proposals were, however, not acceptable to the leaders and a deadlock ensued. The Wavell proposal was

that the entire Council of the Viceroy, except the defence portfolio, should be manned by Indians drawn from the various political parties in proportion to their political strength. The negotiations broke down on the question of parity between the Congress and the Muslim League.

Cabinet Mission's Proposals (1946). Mr. Clement Attlee, the Labour Prime Minister of Britain, announced in the Parliament in March, 1946 his government's new policy towards India. A Cabinet Mission consisting of Lord Pethick Lawrence, Mr. A.V. Alexander and Sir Stafford Cripps was later sent to India. The Mission's talks with the Indian leaders were infructuous as the latter failed to arrive at a settlement. The Mission, therefore, announced its own proposals which recommended the following. -

(i) There should be a Union of British India and Indian States.

(ii) In the contemplated federal set-up, Centre should retain Foreign Affairs, Defence and Communications. Rest of the subjects should be given away to the States.

(iii) The British Indian provinces were to form three groups. Group A constituting the Hindu majority provinces, Group B the Muslim-dominated provinces and Group C the provinces of Punjab and Bengal where the two Communities were almost equally balanced.

(iv) A Constituent Assembly formed of representatives from these provinces should prepare a Constitution.

(v) An interim government should be formed to run the administration till framing of the Constitution.

(vi) British paramountcy should lapse from India.

Both the Congress and the Muslim League vacillated in their attitude towards these proposals but ultimately both agreed to form the interim government. In fact, the Muslim League was persuaded to join the interim government which had already been formed in under the leadership of Jawaharlal Nehru. The League objective joining the government was to sabotage it from within.

Mountbatten Plan (3 June, 1947). A frustrated Muslim League launched its direct action in Calcutta on 16 August, 1946, followed by extensive riots in the city as well as other parts of the country. Finding that the situation was getting out of control, Prime Minister Clement Attlee declared on 20 February, 1947 that the British Government would "effect the transfer of power to responsible Indian hands" by June 1948. Lord Mountbatten, who had succeeded Lord Wavell as the new Viceroy, announced the following plan on 3 June, 1947 :—

(i) The Constituent Assembly might continue its deliberations but the Constitution it was preparing would not be made applicable to Muslim majority provinces ;

(ii) The Muslim majority provinces may, if they like, have their separate Constituent Assembly ;

(iii) The respective legislative assemblies of Punjab and Bengal will decide if the provinces should be partitioned and as to which Constituent Assembly they would like to join ;

(iv) A referendum would be held in the N.W.F.P. and the Muslim-dominated Sylhet district of Assam to ascertain their wishes;

(v) A Boundary Commission would be appointed to demarcate the partitioned provinces of Punjab and Bengal;

(vi) British Paramountcy was to lapse and Indian princes were free to join either of the Unions or to remain independent;

(vii) The transfer of power will be effected by 15th August, 1947.

In July, 1947, the Mountbatten proposals were embodied in the Indian Independence Act of 1947 which was passed by the British Parliament. The country was partitioned into India and Pakistan and the new State of free India came into existence on 15th August, 1947. Pakistan had been formed a day earlier, i.e., on 14th August, 1947.

CONSTITUTIONAL DEVELOPMENT IN INDIA

THE EAST INDIA COMPANY

The Charter of 1813. The 20-year Charter, granted to the East India Company, ended in 1813 when the question of its renewal came up for consideration. By way of a compromise, the British Parliament granted monopoly of China trade to the Company but threw open the Indian trade to all Englishmen. The new Charter also allowed the Company to continue to administer its Indian acquisitions "without prejudice to the undoubted sovereignty of the British Crown in and over the same". Thus all territories of the Company came under the sovereignty of the Crown.

The Charter Act of 1833. The renewal of Charter in 1833 was another step towards the gradual winding up of the Company's operations. The British Parliament allowed the Company to hold the Indian possessions "in trust for his Majesty, his heirs and successors". Monopoly of China trade was withdrawn and assets of the Company were bought after proper evaluation, depriving it of its commercial character. Broadly, the Act introduced the modifications in the constitutional set-up such as : (i) The head of the Company administration was for the first time designated as Governor General of India (instead of Governor General of Bengal); (ii) The Government was empowered to pass formal Acts for the whole of India; (iii) A fourth (Legal) Member was added to the Governor General's Council (Macaulay being the first to hold that office); (iv) Presidencies of Bombay and Madras were subordinated to the Governor General's control; (v) A fourth Presidency of Agra was constituted under a Lieutenant Governor; (vi) The Act declared that "no native of India nor any natural-born subject of His Majesty should be disabled from holding any office, place or employment by reason of his religion, place of birth, descent or colour".

The Charter Act of 1853. The Charter Act of 1853 directed the Company to continue to administer the Indian possessions "until Parliament should otherwise direct". The Charter reduced the number of Directors of Company from 24 to 18, and the

Directors' privilege to appoint the civil servants and took over the appointments of central and provincial councillors. Other provisions of the Act were : (i) Bengal was reorganised into a separate province under a Lieutenant Governor; (ii) The law member was made a full-fledged councillor with power to vote on all business; (iii) A beginning in the direction of Legislative Council was made by adding six new members called legislative councillors. These changes deprived the Company of the last traces of its power and prepared the ground for its abolition.

INDIA UNDER THE CROWN

While the various Acts eroded much of the Company's power and prestige, the Indian Mutiny of 1857 dealt it a death-blow. The necessity of introducing some constitutional changes was keenly felt. The Mutiny brought home to the British Government the absurdity of legislating for the millions of people without means of knowing (except by a rebellion) whether the laws suited them or not.

Indian Council Act of 1861. The result was the Indian Council Act of 1861, designed to associate a few influential Indians with the legislative business of the Government. A fifth Member to the Governor General's Council was added and more Members were appointed to the Council to expand its legislative operations. Most of these nominees were to be Indians. Legislative powers were restored to the governments of Bombay and Madras and provincial legislative councils were created for Bengal, United Provinces and Punjab.

With the separation of departments under individual members, the portfolio system was introduced. This was a move towards the Cabinet system of government resulting in the decentralisation of government business. Dualism of the Supreme Court and 'Sadr Adalats' representing the jurisdiction of the Crown and the Company respectively was abolished and, in their place, Chartered High Courts were constituted in 1861, one in each Presidency.

Indian Council Act of 1892. With the emergence of the Indian National Congress as a strong political force, the need for some constitutional reform was felt by the government. The result was the new Act, which was designed to enlarge the central and provincial councils' membership to 16 and 20 respectively. Without conceding the principle of election, the Act also provided for the nomination of the non-official members by educational and other associations such as Chambers of Commerce, Universities, Municipalities and District Boards. Thus the representative, if not popular or elective, principle was cautiously introduced. The annual budget was placed before the Council and every member could criticise it. However, both in the central and provincial legislatures, the official majority was maintained. Thus the executive, under the circumstances, could be influenced if not controlled.

Indian Councils Act of 1909 (Minto-Morley Reforms). During the first decade of the 20th Century, the Indian National Congress had come under the control of the extremists who were in no mood to accept the slow-moving constitutional reforms. The famous

Minto-Morley Reforms were therefore embodied in the Indian Councils Act of 1909, which further enlarged the central and provincial councils and conceded the principle of election. The number of additional members of the Central Legislative Council was raised from 16 to 60, of whom not more than 28 were to be officials. The Governor General was empowered to nominate five non-official members who together with the 28 official members were to form the official bloc. The other 27 members were to be elected by group system representing various classes and minorities.

In the provincial assemblies, the number of members was increased to 50 in major provinces and to 30 in minor provinces, to be elected by groups of local bodies, land-holders, universities, etc. No official majority was maintained. The major provision of the Act was the principle of separate electorates for Muslims. This measure helped to create divisive tendencies among the Indian people. Later an Indian Member was also included in the Viceroy's Executive Council. This number of Members of the Bombay and Madras Executive Councils was increased from two to four and a beginning was thus made to appoint Indians to those Councils.

(I.A.S., 1964)

The Government of India Act, 1919. The new Act was an attempt to concede the demands of the national leaders by meeting them half way. The Indian participation in World War I had further made the British attitude pliable and responsive. The basic principles of the Act of 1919 were :

(i) Responsible government was introduced in the provinces with further enlarged assemblies and with complete independence from outside control.

(ii) The Central Legislative Council was further enlarged and made responsible.

(iii) The devolution of powers from the centre was extended and legalised. The Centre retained political and external affairs, defence, railways, posts and telegraphs, customs and tariffs, income tax and public debt. All other subjects were transferred to the Provinces.

(iv) Bicameral legislative system comprising the Council of State and the Central Legislative Assembly was introduced at the centre. The Council of State formed the Upper Chamber with 60 members of whom 34 were to be elected. The Central Legislative Assembly formed the Lower Chamber of 145 members of whom 105 were to be elected. Money bills and grants were to be submitted to the Lower House. While the budget was made votable by the Central Legislature, the Viceroy was empowered to restore any grant, rejected by the Legislature, if he considered it was in the interest of the country.

(v) The provincial government was thoroughly reconstituted. Dyarchy, a dual system of government was introduced. The Executive was divided into two departments—the Reserved Department and the Transferred Department. The "Reserved subjects" were to be administered by the Governor with his Executive Council, the Governor being responsible only to the Central Government

and the British Parliament. The "Transferred subjects" were to be administered by the Governor, helped by the Ministers, selected by him from amongst the elected members of the provincial legislature. These Ministers were responsible to the Legislature.

(*I.A.S., 1960 and 1963*)

(vi) The Provinces were to have unicameral legislatures, called Legislative Councils, with clear elected majority.

(vii) The Communal Electorates, granted to Muslims in 1909, were extended to other communities like the Sikhs, Anglo-Indians, Indian Christians and Europeans.

(*N.D.A., 1956*)

(viii) The Governor of a province was given overriding powers to restore any legislative cut in the expenditure, if he thought it to be necessary.

This Act was important inasmuch as it conceded the principle of direct election, widened the franchise and made a provision for the Indian elected Ministers to shoulder responsibility, though of a minor nature. On the debit side, the Act was thoroughly inadequate. The Dyarchy system betrayed lack of confidence in the capacity of Indians to manage all their affairs independently. It created an anomalous situation by giving Indian Ministers responsibility without power and the legislatures power without responsibility. The national leaders, therefore, termed the new constitutional reforms as being "inadequate, unsatisfactory and disappointing".

The Government of India Act of 1935. The Act of 1919 had created more problems than it had solved. The Indian intelligentsia protested that the British Government were doling out constitutional reforms rather than founding a responsible constitutional set-up in India. The three Round Table Conferences that followed were infructuous. After prolonged negotiations and discussions, the Act of 1935 was evolved which was based on two principles, namely : (i) an all India federation composed of British Indian Provinces and those of the Indian States who volunteered to join; and (ii) provincial autonomy based on the principle of popular responsible government.

It abolished the system of Dyarchy at the provincial level but sought to retain the communal electorates. Sind and Orissa were created as new Provinces and Burma was separated from India. Certain territories—Delhi, Ajmer-Merwar, Coorg, the Andamans and British Baluchistan—were separated to be centrally administered through the Chief Commissioners.

(*Engg. Services, 1957 ; N.D.A., 1965*)

The Federal Set-up. The Federal Executive was to be composed of the Governor General and a Council of Ministers. The system of dyarchy was now introduced at the Centre and the Executive was divided into two departments, the "Reserved" and the "Transferred". The "Reserved" subjects were defence, foreign affairs, ecclesiastical affairs and the administration of tribal areas. These were to be administered by the Governor General with the help of Councillors not exceeding three in number. Appointed by the Governor General, they were to be responsible to him alone.

The "Transferred" subjects were to be administered by the Governor General on the advice of Ministers, ten in number, appointed normally from among the members of the Legislature to which they were to be responsible. Even in the "Transferred" subjects, the Governor General had been given overriding powers in connexion with law and order and protection of the right of the minorities.

A bicameral Federal Legislature was constituted. The Upper House, known as the Council of States, was to have 156 members for British India and 104 members for the Indian States. The members representing the States were to be nominated by the Rulers but the representatives of British India were to be directly elected on population basis. The Council of States was to be a permanent body, one-third of the members retiring every year. The Lower House, known as Federal Assembly, was to consist of 250 members from British India and 125 members from the States. The representatives of British India were to be elected indirectly by the provincial legislatures. The members from the States were to be nominated by the rulers. Communal representation was retained in respect of Muslims and was extended to the Sikhs, Anglo-Indians and Indian Christians. The normal life of the Assembly was to be five years but the Governor General had the powers to cut short this period.

The Provincial Set-up. The Act introduced real changes of far-reaching consequences in the provincial set-up. It gave a legal personality to the provinces and liberated them from the superintendence, direction and control of the Central Government. Subject to some safeguards, provincial autonomy (resulting in complete decentralisation) was conceded to the provinces. The executive Government of the province was vested in the Governor, who was to be aided and advised by a Council of Ministers, chosen from amongst the elected members of the Assembly. The Governor was to normally act on the advice of the Chief Minister and his Cabinet, who were made responsible only to the legislature. The special safeguards kept with the Governor included matters regarding safety of the minorities, issuing of ordinances and taking over of administration in the case of breakdown in the constitutional machinery.

Judicial Set-up. A Federal Court was set up to decide the disputes between the Centre and the Provinces.

Conditioned by the various safeguards and restrictions at the Centre as well as the Provinces and the unpopular system of dyarchy at the Centre, the new constitutional set-up produced caustic comments by the political leaders. The nationalists, who had looked forward to a fully responsible government, described the Act as a serious impediment to the attainment of even Dominion Status, not to speak of independence. Pandit Nehru characterised it as "a new charter of slavery".

Indian Independence Act, 1947. The Mountbatten proposals of 3 June, 1947 (dealt in detail earlier) were embodied in the Indian

Independence Act, 1947. Its main provisions were as follows :—

1. There will be two independent Dominions called India and Pakistan ;

2. Each Dominion will be headed by a Governor General appointed by the King ;

3. The Legislatures of the new Dominions will have full sovereignty and no Act of the British Parliament passed after 15th August, 1947 will have any validity in respect of any of the Dominions unless the Dominion Assemblies themselves extend such Acts ;

4. After 15 August, 1947 the United Kingdom Government will have no responsibility towards India and Pakistan ;

5. British paramountcy over the Indian States would lapse ;

6. The Dominion Constituent Assemblies will exercise the powers of legislatures ;

7. Until a new Constitution was framed, the Government of India Act, 1935 will remain the constitutional law of India.

CONSTITUTION OF FREE INDIA

The Indian Independence Act of 1947 divided India into two Dominions and gave full liberty to the Constituent Assembly of each Dominion to frame her Constitution independently and in the manner it liked. Accordingly the Constituent Assembly of India, formed in 1946, reassembled in 1947 to prepare the Constitution. The Constitution was adopted by the Constituent Assembly on 26 November, 1949 and it came into force on 26 January, 1950.

THE PREAMBLE

The Preamble to the Constitution embodies the resolve of the people of India to secure for all citizens :

Justice, social, economic and political ;

Liberty of thought, expression, belief, faith and worship ;

Equality of status and of opportunity ; and

Fraternity, assuring the dignity of the individual and the unity of the Nation. (*Asstt. Gde., 1956 ; S.C.R.A., 1966*)

THE UNION AND ITS TERRITORY

India is a Union of 17 States and 11 Union Territories, mentioned as under :—

| | |
|-------------------|--|
| States | { Andhra Pradesh, Assam (including Meghalaya*), Bihar, Gujarat, Haryana, Jammu and Kashmir, Kerala, Madhya Pradesh, Maharashtra, Mysore, Nagaland, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. |
| Union Territories | { Chandigarh, Delhi, Himachal Pradesh*, Manipur*, Tripura*, the Andaman and Nicobar Islands ; the Laccadive, Minicoy and Amindivi Islands ; Dadra and Nagar Haveli ; Goa, Daman and Diu ; NEFA and Pondicherry. (<i>I.M.A., S.C.R.A., 1966</i>). |

*According to a government announcement, the Territory will be formed into a full-fledged State. Necessary legislation has not so far been passed by the Parliament.

Salient Features of the Constitution :

Following are the salient features of the Constitution of India :—

1. The Constitution declares India as a Sovereign Democratic Republic and a Secular State.

2. The structure of the government as set up by the Constitution is federal. The executive and legislative powers have been divided between the Union and the States.

3. It is a close federation rather than a loose one.

4. Care has been taken to graft upon the federal system the strength of the unitary government with a view to arresting centrifugal forces. It is a federal government in normal times and a unitary one in times of emergency.

5. Although it is a dual Policy (being a federation), the Constitution provides for a single judiciary, a single set of rights and obligations, single citizenship, all India services, uniformity in criminal and civil laws, and other factors that consolidate the unity of the country. *(I R.S.E., 1960)*

6. Under certain circumstances, the Union Parliament can legislate on subjects included in the State List and can take over administration of a State by declaring an emergency. Thus the Constitution has the essentials of both unitary and federal systems.

7. The Constitution has such measures as universal suffrage, abolition of communal electorates and liquidation of States.

8. It provides to its citizens justice, equality and fraternity.

9. It is the lengthiest Constitution ever adopted anywhere in the world. It has 395 Articles and 8 Schedules and it is a store-house of the accumulated experience of world Constitutions.

10. It is a rigid Constitution but certain amount of flexibility has been allowed. Procedure has been laid down to amend the federal clauses and many of the provisions of the Constitution can be amended or modified by the usual process of ordinary majority.

11. It guarantees fundamental rights to all citizens and lays down Directive Principles of State Policy for guidance of the government and the legislators.

12. It abolishes untouchability and, in certain cases, provides reservation of seats for some minority groups.

(I.A.S., 1952)

CITIZENSHIP

The Constitution provides for a single and uniform citizenship for the whole of India. The following categories of individuals can be citizens of India :

1. A person who was born in India.

2. A person who descends from Indian parents.

3. A person having residence in India for 5 years at the commencement of the Constitution.

4. A person who migrated from Pakistan before 19 July, 1948.

5. A person who migrated from Pakistan after 19 July, 1948 but has been registered as a citizen by a competent authority.

6. A person who had migrated to Pakistan but has returned to India for permanent settlement after having been granted permanent permit by the competent authority.

Persons of Indian origin residing abroad can also become citizens of India by registering themselves as such with Indian diplomatic or Consular representatives in the countries of their residence.

FRANCHISE

Article 326 of the Constitution confers the right of vote on every person who :—

1. is a citizen of India ;
2. is not less than twenty-one years of age on a date to be fixed by the appropriate legislature ;
3. is not otherwise disqualified under the Constitution or any law on the ground of non-residence, unsoundness of mind, crime or corrupt or illegal practice.

FUNDAMENTAL RIGHTS

The Constitution guarantees seven broad categories of fundamental rights which are justiciable. These are :—

1. **Right to Equality.** This means (i) equality before the law ; (ii) prohibition of discrimination on grounds of religion, race, caste, sex or place of birth ; (iii) equality of opportunity in matters of employment ; (iv) abolition of untouchability and its practice in any form ; and (v) abolition of the practice of conferring titles except the military and academic distinctions by the government.

2. **Right to Freedom.** This includes freedom of (i) speech and expression ; (ii) assembly, association or union ; (iii) movement, residence, acquisition and disposal of property ; and (iv) the right to practise any profession or occupation. These freedoms are not absolute but are subject to the limitations such as security of the State, friendly relations with foreign countries, public order, decency and morality.

3. **Right against Exploitation.** This right includes prohibition of all forms of forced labour, child labour and traffic in human beings.

4. **Right to Freedom of Religion.** This right includes freedom of conscience and of profession, practice and propagation of religion.

5. **Right of Minorities.** This includes the protection of the interests of minorities and their culture, language and script and the right of the minorities to receive education and establish and administer educational institutions of their choice.

6. **Right to Property.** This means that no person shall be deprived of his property except when the State has to acquire it for public purpose and after payment of compensation.

7. **Right to Constitutional Remedies.** Any individual who feels that he has been discriminated against or victimised in any way, has the right to move the Supreme Court for the enforcement of

his fundamental rights. The Supreme Court has the powers to safeguard the fundamental rights of the citizens. However, the right to move the Supreme Court can be superseded during the emergency. (*N.D.A., L.D.C., 1966 ; P.C.S., 1965*)

DIRECTIVE PRINCIPLES OF STATE POLICY

The Directive Principles of State Policy, though not enforceable through courts of law, are regarded as "fundamental in the governance of the country". The Directives tend to be some kind of instructions to the future legislature and executive, showing the manner in which they have to exercise their authority. The difference between the fundamental rights and the directives of State policy is that while the fundamental rights are justiciable i.e. the denial of a fundamental right to an individual by the State can be challenged in a court of law and got remedied the directives cannot be enforced by a court of law. (*I.A.S., 1961 ; S.C.R.A., 1966*)

The Directives lay down that the State shall strive :

(i) to promote the welfare of the people by administration of social, economic and political justice ;

(ii) to secure adequate means of livelihood, equal pay for equal work to all men and women ;

(iii) to provide necessary benefits in the event of unemployment, old age, sickness and disablement ;

(iv) to secure to workers humane working conditions, a decent standard of life and full enjoyment of leisure and cultural opportunities ;

(v) to secure fair distribution of wealth and to check concentration of wealth and means of production in few hands ;

(vi) for the prohibition of intoxicants ;

(vii) for the provision of free and compulsory education for all children up to the age of fourteen ;

(viii) for the organisation of village panchayats ;

(ix) for separation of judiciary from the executive and promulgation of a uniform civil code for the whole country ;

(x) for protection of national monuments ;

(xi) for promotion of educational and economic interests of Scheduled Castes, Scheduled Tribes and other weaker sections; and

(xii) for the promotion of international peace and security, respect for international law and treaty obligations and settlement of international disputes by arbitration. (*P.C.S., 1953*)

THE UNION

(a) EXECUTIVE

The Executive of the Union consists of the President, the Vice President and the Council of Ministers with the Prime Minister at its head.

The President

The President is the supreme executive authority of the Union and is the Supreme Commander of the Indian Armed Forces. In the Indian Constitution, the President occupies the same position as the King under the English Constitution. He is the Head of the State and represents the nation but does not rule the nation. He is rather the symbol of the nation.

His Election. The President is elected by an electoral college consisting of (i) the elected members of both Houses of Parliament and (ii) the elected members of the Legislative Assemblies of the States. The voting is in accordance with the system of proportional representation by means of the single transferable vote.

(I.M.A., 1966)

Qualifications for Election. The President must be a (i) citizen of India, (ii) not less than 35 years of age, and (iii) eligible for election as a member of the House of the People. A person shall not be eligible for election as President if he holds any office of profit under the Government of India or the Government of any State. But a Governor of a State, a Minister of the Union or a State or the Vice President or the President (who is running for the second term) will not be deemed to hold any office of profit.

(I.M.A., Nov., 1965)

Term of Office. The President's term of office is 5 years unless he resigns his office earlier or is removed from office for violation of the Constitution. He is eligible for re-election. (L.D.C., 1966)

Salary and Allowances. The President is entitled to a salary of Rs. 10,000 per month and the rent free use of his official residence. On retirement, he is paid Rs. 15,000 per annum as his pension and an additional grant of Rs. 12,000 per annum for secretarial assistance. The emoluments of the President, determined by Parliament by law, cannot, however, be reduced during his term of office.

Impeachment of the President. The President can be removed from office for violation of the Constitution. The charge of violation of the Constitution must be preferred in a resolution which has been moved in either House of the Parliament. Such a resolution can be moved after at least fourteen days' notice in writing signed by not less than one-fourth of the total number of members of the House and it must be passed by a majority of no less than two-thirds of the total membership of the House. When the charge has been so preferred by either House of Parliament, the House shall investigate the charge and the President shall have the right to appear at such investigation. If, as a result of the investigation, a resolution is passed by the majority, not less than two-thirds of the total membership of the House declaring that the charge has been proved, the President shall be removed from his office with immediate effect.

(S.C.R.A., 1963)

Powers of the President

(P.C.S., 1959)

Power to make appointments (Executive Powers). According to the Constitution, the executive powers of the Union shall be vested in the President and shall be exercised by him either directly or through the functionaries subordinate to him. The President appoints the Prime Minister and also other Ministers on the advice of the Prime Minister. He appoints the Attorney General of India, Judges of the Supreme Court, Comptroller and Auditor General, Governors of States, High Court Judges, Finance Commission and the Chairman and Members of the Union Public Service Commission.

Legislative Powers. The President has the powers to summon or prorogue either or both Houses of Parliament. He can address either or both Houses of Parliament and can send messages whether with respect to a Bill pending in Parliament or otherwise and the House concerned will have to immediately consider the matter. He gives assent to Bills passed by the Houses of Parliament without which no Bill can become an Act. He can also withhold his assent to a Bill and send it back to the House for reconsideration. All Union Territories are administered by him through his subordinate functionaries. He is also empowered to issue ordinances when the Parliament is not in session.

Financial Powers. The President is empowered to make recommendations for introducing or moving money bills. No demand for a grant shall be made except on the recommendation of the President nor will it be introduced except on his recommendation.

Power to grant pardons. The President has the power to grant pardons, reprieves, respites or remission of punishment or to suspend, remit or commute the sentences including death sentence of any person convicted of offences in a civil or military court.

Emergency Powers. In case of external aggression, war, internal disturbances of serious nature and financial instability which threaten the existence of the State, the President can proclaim an emergency and can take over administration of any territory or give any directions for its governance. The President can, in an emergency, suspend the enforcement of Fundamental Rights, conferred on the citizens. If the President, on the recommendation of the State Governor, feels that the constitutional machinery has failed to function in the State, he can take over the functions of the State and can declare that the legislative powers of the State vest with the Central Parliament. The emergency powers had to be used in Punjab (1968), Kerala (1954, 1956, 1959, 1964), Orissa (1961), Bihar (1968), U. P. (1968, 1970) and West Bengal (1968, 1970).
(S.C.R. 4., 1966 ; M.A. 1965)

The Vice-President

The Vice-President is the *ex-officio* Chairman of the Council of States (Rajya Sabha). He acts as President in the event of a vacancy in the office of the President by death, resignation or removal and in the absence or illness of the President. The term of office of the Vice-President is five years unless he resigns earlier or is removed from office. His removal can be effected by a resolution of the Council of States passed by a majority of all the then members of the Council and agreed to by the House of the People. (Lok Sabha).
(S.C.R.A., 1966)

His Election. The candidate for Vice-Presidency must be a citizen of India and 35 years old and should also be eligible for election to Rajya Sabha. He is elected by members of both houses of Parliament assembled at a joint meeting in accordance with the system of proportional representation by means of the single transferable vote. Voting is by secret ballot.
(I.N., 1966)

Salary. The Vice-President has no functions as such, his normal function being to act as the *ex-officio* Chairman of the

Rajya Sabha for which function he draws a salary of Rs. 2,250 a month.

Council of Ministers

The *de facto* executive is the Council of Ministers with the Prime Minister at the head to advise the President in the exercise of his functions. The Prime Minister is appointed by the President who also appoints the other Ministers on the advice of the Prime Minister. The Council of Ministers holds office during the pleasure of the President but it is collectively responsible to the House of the People. The Prime Minister keeps the President informed regarding the administration of the affairs of the Union and the proposals for legislation. (I.N., 1965)

Functions of the Cabinet. The Cabinet is the hub of all governmental activity. It conducts the administration of the Union Government through various departments, formulates major policies, plans legislative programme and initiates all legislative business and money bills in the Parliament. It formulates the country's foreign policy and projects the nation's real image abroad. The Cabinet meetings are not attended by the President.

(Air Force, 1955)

The Prime Minister

The Prime Minister is the leader of the majority party in the Lok Sabha. He is called upon by the President to form a government. Other Ministers are appointed by the President on the advice of the Prime Minister. The Prime Minister is competent to ask for any Minister's resignation or to drop him from the Cabinet. In case of the Prime Minister's resignation, the whole Cabinet is deemed to have resigned with him (her).

His Functions. The Prime Minister is the real link between the political and the administrative functionaries and also between the government and the President. He, along with his Cabinet, forms the "working executive" of the Union. He guides and coordinates the working of his Ministers, plans and spells out the major policy decisions regarding governance of the country or conduct of foreign policy. He is, in fact, the brain behind all government activity. He represents the Cabinet as a whole in the Parliament and is chiefly responsible to the legislature for acts of the government. (A.F., 1955)

(b) LEGISLATURE

The Parliament

As India is a parliamentary democracy, founded on adult franchise, the sovereignty ultimately rests with the people. The executive authority is, therefore, responsible for all its actions to the people's elected representatives in the Parliament. The Parliament of India consists of the President and the two Houses known as the Council of States (Rajya Sabha) and the House of the People (Lok Sabha).

Functions and Powers of the Parliament

The main functions of the Parliament are to make laws for the country and to make finances available to the government. All legislation must be passed by both Houses of Parliament. In the

case of an emergency, the Parliament is vested with the additional powers to enact legislation for matters enumerated in the State List. The power to amend the Constitution rests solely with the Parliament. The Parliament is empowered to impeach the President and to remove Judges of the Supreme Court and the High Courts, the Chief Election Commissioner and the Comptroller and Auditor General of India in accordance with the procedure laid down in the Constitution.

Council of States (Rajya Sabha)

The Council of States consists of 250 members of whom 12 are nominated by the President for their special knowledge or experience in literature, science, art or social service. The rest of the members are the representatives of the States and of the Union Territories which have been allotted their respective quota of representatives on the basis of their population and size. This specified number of representatives for each State is elected indirectly by the elected members of the legislative assembly of the State in accordance with the system of proportional representation by means of the single transferable vote. The representatives of the Union Territories are chosen in such manner as the Parliament by law prescribes.

The Council of States is not subject to dissolution; one-third of its members retiring on the expiration of every two years. Members of the Council must be citizens of India and not less than 30 years of age. They should also not be holding an office of profit under the Government and should be of sound mind.

(S. C. R. 4, 1964, *Stenog.*, 1966)

House of the People (Lok Sabha)

The House of the People consists of not more than 525 members (including 25 members from the Union Territories) directly elected from territorial constituencies in the States and the Union Territories. Up to 1970, the President can nominate two members to the House of the People to represent the Anglo-Indian community if in his opinion it is not adequately represented. Unless dissolved sooner, the term of the House is five years from the date of its first meeting. Any person who is a citizen of India and is 21 years old or more is eligible to vote. The Member of the House must be a citizen of India, of the age of 25 years or more, not holding an office of profit under the Government and should be of sound mind.

The Council of Ministers is collectively responsible to the House of the People which can force the resignation of the Council of Ministers by refusing to pass the budget or any other major legislative measure or by adopting a vote of no confidence. The House of the People alone can sanction grants, appropriations and proposals for taxation. All money bills are introduced in the House of the People.

The Speaker The Lok Sabha is presided over by the Speaker who is elected by the members of the Lok Sabha from among themselves. He conducts the proceedings of the House, maintains order and discipline therein and protects the privileges of its

members. No person can speak without his consent. He has to decide all questions of procedure. He is expected to be absolutely impartial and above party loyalties in conducting the business of the House. He does not vote except in the event of a tie. He decides if a particular bill is a money bill or not and his decision cannot be challenged. A Speaker vacates his office if he ceases to be a member of the Lok Sabha. He may be removed from office by a resolution of the Lok Sabha, passed by a majority of all the existing members of the Lok Sabha. The Speaker is not to be in the chair when a resolution for his removal from office is under consideration.

The Lok Sabha also elects from among its members a Deputy Speaker who conducts the proceedings of the House in the absence of the Speaker and enjoys all the privileges and exercises all the authority of the Speaker. The Speaker shall not vacate his office with the dissolution of the Lok Sabha but continues till immediately before the first meeting of the new Lok Sabha. The Speaker also nominates, from time to time, six members of the House (including members of opposition parties) to constitute a panel of Chairmen to preside over the deliberations of the House in the absence of both the Speaker and the Deputy Speaker. *Pay of the Speaker : Rs. 2,250 a month ; Pay of Dy. Speaker : Rs. 2,000 a month.*

Deadlock between the two Houses of Parliament

In case of disagreement resulting in a deadlock between the two Houses, the Constitution provides for a joint sitting of both the Houses. It must, however, be understood that in the case of Money Bills or Financial Bills no deadlock is possible as the sole power for the passage of these bills lies only with the House of the People. The Council of States can at the maximum retain the Money Bills for 14 days and make some recommendations which the House of the People may or may not accept. In case of a deadlock in other bills, the President may summon a joint session of the two Houses and put the bill to vote. If the bill is carried by the majority of members then present and voting, the bill shall be deemed to have been passed. Due to its numerical majority, the House of the People has an edge over the Council of States. *(Asstt. Gde., LDC., 1955)*

(c) JUDICIARY

The Supreme Court of India

The Supreme Court of India consists of a Chief Justice and not more than thirteen Judges appointed by the President. The Judges hold office till the age of 65. A retired Judge of the Supreme Court is debarred from practising in any Court of law or before any other authority in India. A Judge of the Supreme Court can be removed from office on the ground of proved misbehaviour or incapacity only by an order of the President passed after an address by each House of Parliament, supported by a majority of the total membership of that House and by a majority of not less than two-thirds of the members present and voting. *(Pay of Chief Justice : Rs. 5,000 ; Judge : Rs. 4,000 p. m.)*

Jurisdiction.

The Supreme Court has three kinds of jurisdiction, namely (i) Original (ii) Appellate, and (iii) Advisory.

• **Original Jurisdiction** (i) The Supreme Court is empowered to decide all disputes between the Union and one or more States or between two or more States *inter se*.

(ii) Under Article 32 of the Constitution the Supreme Court can enforce fundamental rights guaranteed under Part III of the Constitution.

(iii) It is empowered to issue directions or orders of writs including those in the nature of writs of *Habeas Corpus*, *mandamus*, prohibition, *quo warrant* and *certiorari* whichever may be appropriate, to enforce the fundamental rights.

Appellate Jurisdiction (i) The Supreme Court hears appeals from any judgment passed by a High Court and which involves a substantial question of law as to the interpretation of the Constitution.

(ii) The appeals for civil and criminal cases arising from the judgments of High Courts lie with the Supreme Court. However, in case of a civil suit appeal, the amount in dispute must be at least Rs. 20,000.

(iii) It has jurisdiction over all courts and tribunals in India and can grant special leave to appeal against any judgment made by these courts or tribunals.

Advisory Jurisdiction The President can seek the opinion of the Supreme Court on important questions of law and fact.

(I N, 1966 14 S, 1962)

Doctrine of Judicial Review

Judicial Review, as emphasized in the Indian Constitution, represents the competence of the Supreme Court to act as the guardian and protector of fundamental rights as also the institutions which are set up under the Constitution. If judiciary in other words has been assigned the role of preventing the executive and the legislature from violating the rights and freedoms guaranteed to the citizen. It has the power to nullify an executive order or an Act passed by the Parliament or by a State legislature, by declaring it *ultra vires* the Constitution or an act as not authorized by law.

ATTORNEY-GENERAL FOR INDIA

The Constitution provides for the appointment by the President of a person who is qualified to be appointed a Judge of the Supreme Court to be Attorney-General for India. The Attorney-General holds office during the pleasure of the President. He gives expert legal advice to the Government of India and performs such duties of legal character as are assigned to him. He has right of audience in all Courts in India and can take part in the proceedings of either House of Parliament but he is not entitled to vote. (Pay Rs. 4,000 p m)

COMPTROLLER AND AUDITOR GENERAL OF INDIA

With a view to have the accounts of the Union and of the States prepared and kept in proper form and to see that the items

of expenditure incurred by the executive are kept strictly within the grants made by the legislature, the President shall appoint the Comptroller and Auditor General of India. After the vacation of his office as Comptroller and Auditor General, he is not eligible for further office either under the Government of India or under the Government of any State. The reports of the Comptroller and Auditor General are presented to the President and Governors of the States, as the case may be, who shall present them to the Houses of Parliament or the State legislature. (*J.A.S., 1950*)

The Comptroller and Auditor General may be removed from office only by an order of the President passed after an address by each House of Parliament supported by a majority of the total membership of that House and by a majority of not less than two-thirds of the members of that House present and voting has been presented to the President in the same session for such removal on grounds of proved misbehaviour or incapacity.

(*Pay : Rs. 4,000 p.m.*)

THE ELECTION COMMISSION

The Constitution provides for an independent agency known as the Election Commission which is charged with the preparation of the electoral rolls and the superintendence, direction and control of all elections to the Parliament and to the legislature of each State as also of elections to the offices of the President and the Vice-President of India. It is to consist of the Chief Election Commissioner and such number of other election commissioners as the President may from time to time fix. They are all to be appointed by the President. The Commission is empowered to appoint election tribunals to settle disputes and doubts arising out of elections to Parliament and State legislatures. With a view to ensuring independence of the Election Commission from pressure and influence of the Union Government, the Constitution provides that the conditions of service of the Chief Election Commissioner cannot be varied to his disadvantage after his appointment and that he cannot be removed from office except in the manner or in the like grounds as a Judge of the Supreme Court.

UNION PUBLIC SERVICE COMMISSION

The Constitution provides for the establishment of a Union Public Service Commission with a Chairman and Members appointed by the President. One half of the Members must have held office for at least ten years in the Central or a State government. A member holds office for six years or until he attains the age of 65 years, whichever is earlier. The functions of the Commission briefly are :—

(i) recruitment to all civil services and posts under the Union Government by written examinations, interview etc. ;

(ii) advising the Government with regard to making appointments to civil services and posts and making promotions and transfers from one service to another and on the suitability of candidates for such appointments, promotion or transfers ;

(iii) advising the Government on all disciplinary matters affecting a person serving under the Government of India in a civil capacity including memorials or petitions relating to such matters, and

(iv) tendering advice on all matters regarding the award of pensions, in respect of the injuries sustained during service under the Government.

The Chairman or any other Member of the Commission may be removed from his office by the President on grounds of misbehaviour when such removal has been recommended by the Supreme Court on enquiry. He is also removable from his office if he is adjudged insolvent, or if he is engaged during his term of office in any paid employment outside the duties of his office or is, in the opinion of the President, infirm of mind or body.

(1-1-5-1963)

STATES

(a) THE EXECUTIVE

The system of Government in the States closely resembles that of the Union. The State Executive consists of the Governor and a Council of Ministers with a Chief Minister at its head.

The Governor

Constituted as the head of the State Executive, the Governor is appointed by the President for a term of five years and holds office during the pleasure of the President. Only Indian citizens above 35 years of age are eligible for appointment to this office. He is paid Rs. 5,500 per month as his salary plus other allowances and privileges.

Powers of the Governor All executive actions of the State Government are taken in the name of the Governor. He appoints the Chief Minister and his Council of Ministers, makes rules for the proper functioning of the government and appoints several important State officials such as Chairman and Members of the State Public Service Commission and Advocate General of the State. He can summon or prorogue the legislature or dissolve it. He can issue ordinances when the legislature is not in session. No money bills or financial bills can be introduced in the legislature without his recommendation. He is empowered to remit or commute the sentence of any person and to grant pardons, reprieves, respites or remissions of punishments.

Discretionary Powers of the Governor The role of the State Governor is largely a constitutional one, and under the normal circumstances he is to act on the advice of his Ministers. However, the Governor is not a mere figure-head but an important functionary. Therefore, the Constitution requires him to "exercise his functions or any of them in his discretion." The Governor, it must be understood, is an agent of the President and plays the role of "eyes and ears" of the Union Government in the State he functions. His discretionary powers relate to the making of reports to the Union President about the (i) administration of Scheduled Areas, and (ii) breakdown of constitutional machinery in the State. Thus when, under Article 356 of the Constitution, a Governor

makes a report to the President to the effect that the government of the State cannot be carried on in accordance with the provisions of the Constitution, he has obviously to act in his discretion; no Council of Ministers would afford to advise him to make such a report to the Centre.

Council of Ministers

The Constitution provides for a Council of Ministers with a Chief Minister at the head to advise the Governor in the exercise of his functions. The Chief Minister is appointed by the Governor who also appoints other Ministers, on the advice of the Chief Minister. The Council of Ministers, which holds office during the pleasure of the Governor, is collectively responsible to the Legislative Assembly of the State.

(b) LEGISLATURE

Every State has a Legislature which consists of the Governor and one or two Houses as the case may be. The Houses are called the Legislative Council (Vidhan Parishad), wherever it exists, and the Legislative Assembly (Vidhan Sabha).

Legislative Council (Vidhan Parishad)

The Legislative Council of a State comprises not more than one-third of the total number of members in the Legislative Assembly of the State and in no case less than 40 members. One-third of the members of the Council are elected by the members of the Legislative Assembly of the State from amongst persons who are not members of the Assembly, one-third by electorates consisting of members of municipalities, district boards and other local authorities, one twelfth by registered teachers in educational institutions not lower than secondary schools and a further one-twelfth by registered graduates of more than three years' standing. The remaining members are nominated by the Governor from among those who have distinguished themselves in the field of literature, science, art, cooperative movement or social service. The Legislative Councils are permanent, one-third of their members retiring on the expiration of every two years. The election to the Legislative Council is held in accordance with the system of proportional representation by means of the single transferable vote.

Legislative Assembly (Vidhan Sabha)

The Legislative Assembly of a State consists of not more than 500 and not less than 60 members, chosen by direct election from territorial constituencies in the State. The term of the Assembly is five years unless it is dissolved earlier. The State Legislature has exclusive powers to make laws in respect of subjects enumerated in the State List and under certain conditions, also in the Concurrent List. The financial powers of the Legislature include authorisation of all expenditure, taxation and borrowing by the Government. The Council of Ministers is responsible to the Legislative Assembly of the State. Money bills can be introduced only in the Legislative Assembly. However, no bills relating to subjects like compulsory acquisition of property, estates and jagirs, measures affecting the

powers and position of High Courts and matters of inter-State interest can be introduced in a State legislature without the previous sanction of the President.

In addition to the usual power of financial control, the State Legislature, through the normal parliamentary devices like questions, discussions, adjournment and no-confidence motions and resolutions, keeps a watch on the actions of the Executive. There are Committees, on Estimates and Public Accounts, to ensure that grants sanctioned by the Legislature are properly utilised.

(c) JUDICIARY

High Court

There is a High Court in each State which stands at the head of the State's judicial administration. Each High Court consists of a Chief Justice and a number of other Judges, appointed by the President in consultation with the Chief Justice of India and the Governor of the State. A High Court Judge holds office until he attains the age of 62 years. (Pay : Chief Justice : Rs. 4,000 ; Judge Rs. 3,500 p.m.)

The High Court is empowered to issue to any person or the Government within its jurisdiction directions, orders or writs, including writs which are in the nature of *Habeas Corpus*, *mandamus*, prohibition, *quo warranto* and *certiorari*. The High Courts have powers of superintendence over all subordinate courts and tribunals within their jurisdiction.

Subordinate Courts

Subject to minor local variations, the structure and functions of the subordinate courts are more or less uniform throughout the country. Each State is divided into a number of districts, each under the jurisdiction of the principal civil court presided over by a district judge. Subordinate to him is a hierarchy of different grades of civil judicial authorities.

(d) STATE PUBLIC SERVICE COMMISSION

The Constitution provides for a Public Service Commission for each State. The Chairman and the Members of such a Commission are appointed by the State Governor. One half of them must have held office for at least 10 years under a State Government. They hold office for six years or until the age of 60 years, whichever is earlier. The Chairman or a Member of a State Public Service Commission is removable in accordance with the procedure and for the reasons prescribed for the Chairman and Members of the Union Public Service Commission. The conditions of service of a Member cannot be varied to his disadvantage after his appointment. After retirement, a Member cannot take any Government employment.

OFFICIAL LANGUAGES

According to the Constitution, Hindi in Devanagari script will be the official language of the Union. English was, however, to continue to be used for official purposes for a period of 15 years from the commencement of the Constitution. The form of numerals to be used for the official purposes of the Union is the international form of Indian numerals.

As provided in the Constitution, Hindi became the official language of the Union with effect from January 26, 1965. However, a provision has been made for the continued use of the English language in addition to Hindi, even after January 26, 1965, for : (a) all official purposes of the Union and (b) for the transaction of business in the Parliament. Hindi or English or both are to be used for communication between a State and the Union and between one State and another. After 1975, a parliamentary committee will review and report on the progress of Hindi. Opinion of the State legislatures would be elicited on this report and a decision regarding replacement of English by Hindi will be taken in the light of these opinions. (I.A.S., 1963)

LANGUAGES MENTIONED IN THE SCHEDULE OF THE CONSTITUTION

The following fifteen languages have been mentioned in the Eighth Schedule as the languages of India :—

Assamese, Bengali, Hindi, Urdu, Marathi, Sanskrit, Punjabi, Gujarati, Kashmiri, Telugu, Tamil, Malayalam, Kanarese, Oriya and Sindhi.

Sindhi was included in the Schedule in 1967. Of all the above languages, Sanskrit is the oldest language and mother of most of the Indian languages. At present, it is hardly spoken in any part of India. (I. R. S. E., 1960)

DISTRIBUTION OF POWERS BETWEEN CENTRE AND THE STATES

A federation implies an agreement between two or more communities which otherwise are independent and autonomous. Thus, under a federal Constitution the distribution of legislative powers between the Centre and the Units is very necessary. Under the Indian Constitution, the matters of legislation have been enumerated in the following three lists :—

Union List. Only the Union Parliament has powers to enact legislation in the matters enumerated in this List. It contains 98 subjects, including Defence, Foreign Affairs, Banking and Currency.

State List. The State Legislature is authorised to enact legislation in respect of the matters mentioned in this List comprising 66 items including Health, Education and Agriculture.

Concurrent List. Both Parliament and the State Legislatures are competent to legislate in matters enumerated in this List which comprises 47 items including Criminal Law and Procedure and economic planning. In case of an inconsistency between the law enacted by the State and the one by the Parliament, the one enacted by the Parliament will prevail.

Residuary Powers. These powers relate to any matter not specified in the Concurrent or the State Lists.

AMENDMENT* OF CONSTITUTION

“The federal Constitution is the fundamental law of the

* To date 23 amendments have been incorporated in the Constitution. The latest amendment seeks to extend the period of reservation of seats for Scheduled Castes and Scheduled Tribes in Parliament and Assemblies for another ten years.

land, hence it cannot be altered by ordinary legislation. The federal legislature, being itself the creation of the federal Constitution, is subordinate to it and has only such power of legislation as is expressly conferred on it by the Constitution". It is on account of this reason that a federal Constitution is generally called rigid and difficult to amend. The Constitutions of the United States of America and Australia are the examples of extremely rigid statutes almost impossible of amendment.

But while the Indian Constitution is federal and written, unnecessary difficulties in the matter of its amendment have been avoided to a certain extent. The powers of amendment are left with the Legislatures, Central and Provincial. In certain specific matters like the manner of election of the President, the Constitution and functioning of the Supreme Court and High Courts, distribution of legislative powers between the Centre and the States etc. etc, ratification by the State legislatures is required. All other Articles of the Constitution can be amended by Parliament.

The Articles or provisions of the Constitution which can be amended by the Parliament without reference to the State Legislatures fall into two divisions. In the first case, some provisions can be amended by a majority of not less than two thirds of the members of each House present and voting and a majority of total membership of each House. In the second case, there are some provisions which can be amended by the Parliament in the ordinary course of a simple majority. The latter provisions relate to : (i) the establishment or abolition of second Chambers in the State Legislatures ; (ii) administration of tribal areas ; and (iii) creation of new States and reconstitution of existing ones.

ZONAL COUNCILS

The Zonal Councils were created under the States Reorganisation Act, 1956. Five in number namely the Northern, Central, Eastern, Western and Southern Zones the Councils were constituted to coordinate the working of a group of adjoining States and to resolve mutual differences that may arise from the working or rights of inter-State power or irrigational systems or from other matters of common interest. The occasional meetings of the Zonal Councils are utilized to forge cohesion and to create a sense of oneness among the neighbouring States. The Councils are only advisory bodies but are authorised to discuss all or any matter of common interest.

The Zones and their territories are given below :—

- | | |
|---------------|--|
| Northern Zone | -- Punjab, Rajasthan, Himachal Pradesh, Haryana, Delhi and Jammu and Kashmir. |
| Central Zone | -- Uttar Pradesh and Madhya Pradesh. |
| Eastern Zone | -- Assam, Bihar, Orissa, West Bengal, Manipur, Tripura and Nagaland. |
| Western Zone | -- Gujarat, Maharashtra, Mysore, Goa, Daman and Diu, Dadra and Nagar Haveli. |
| Southern Zone | -- Tamil Nadu, Andhra, Kerala and Pondicherry and Mysore (as a permanent invitee). |

NATIONAL SYMBOLS

National Emblem. The National Emblem, adopted by the Government of India on January 26, 1950, is an adaptation from the Lion Capital of Asoka at Sarnath. It has three lions (as against four in the original pillar) mounted on an abacus with the Wheel of Law (Dharam Chakra) appearing in relief in the centre, a bull on the right and a horse on the left and the outlines of the other wheels on the extreme right and left. The words "Satyameva jayate" from the *Mundaka Upanishad* meaning "Truth alone triumphs" are inscribed below the Emblem in the Devanagari script. (N. D. A., 1964)

The National Flag. Adopted by the Constituent Assembly of India on July 22, 1947, the National Flag of India is a horizontal tricolour of deep saffron (Kesari), white and dark green in equal proportion. In the centre of the white band is the Asoka wheel (chakra) in navy blue to represent the Charkha. The flag is rectangular in shape and the ratio of the width to the length of the flag should ordinarily be 2 : 3. Only Khadi is to be used for the National Flag.

The National Anthem. Rabindranath Tagore's song *Jana-gana-mana*, sung for the first time at the Calcutta session of the Indian National Congress in December, 1911, was adopted as the National Anthem of India on January 24, 1950. The complete song consists of five stanzas. The first stanza, which has been adopted by the Defence Forces and is usually sung on ceremonial occasions, reads as follows :—

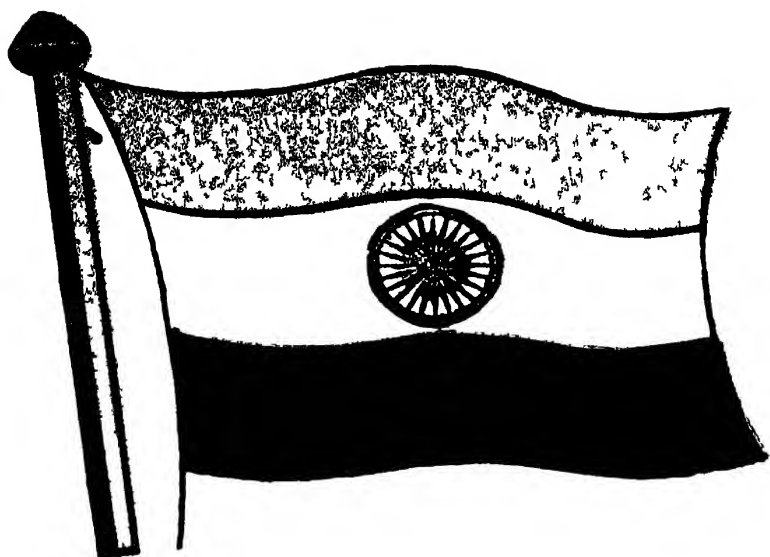
*Jana-gana-mana-adhinayaka, jaya he
Bharata-bhagya-vidhata.
Punjaba-Sindhu-Gujarata-Maratha-Dravida-Utkala-Banga
Vindhya-Himachala-Yamuna-Ganga-Uchchhala-Jaladhi-taranga
Tava subha name jage,
Tava subha asisa mage,
Gahe tava jaya-gatha
Jana-gana-mangala-dayaka, jaya he
Bharata-bhagya-vidhata.
Jaya he, jaya he, jaya he,
Jaya jaya jaya, jaya he.*

Translated by Rabindranath Tagore himself under the title "Morning Song", its English rendering reads :—

"Thou art the ruler of the minds of all people, dispenser of India's destiny. Thy name rouses the hearts of the Punjab, Sindh, Gujarat and Maratha, of the Dravid and Orissa and Bengal ; it echoes in the hills of the Vindhyas and Himalayas, mingles in the music of the Jamuna and Ganges and is chanted by the waves of the Indian Sea. They pray for thy blessings and sing thy praise. The saving of all people waits in thy hand, thou dispenser of India's destiny.

Victory, victory, victory to thee."

National Song. Bankim Chandra Chatterjee's *Vande Mataram*, which occurs in his novel, *Anand Math*, has been accorded



सत्यमेव जयते

an equal status with *Jana-gana mana*. The following is the text of its first stanza:—

*Vande Mataram !
Sujalam, suphalam, malayaja-shitalam,
Shasyashyamalam, Mataram !
Shubhrajyostna-pulakitayaminim,
Phullakusumita-drumadala-shobhinim,
Suhasinim sumadhura-bhasinim,
Sukhadam, varadam, Mataram !*

Following is a translation of the above stanza .

Mother, I bow to thee !
Rich with thy hurrying streams,
Bright with thy orchard gleams,
Cool with thy winds of delight,
Dark fields waving, Mother of might,
Mother free.
Glory of moonlight dreams
Over thy branches and lordly streams,
Clad in thy blossoming trees,
Mother, giver of ease,
Laughing low and sweet !
Mother, I kiss thy feet
Speaker sweet and low !
Mother to thee I bow !

National Bird. The Government of India announced in 1964 that **Peacock** would be the National Bird of India

National Animal. According to a Government announcement of 9 July, 1971, **Lion** has been chosen as the National Animal of India.

NATIONAL CALENDAR

In 1955, a special committee recommended the adoption of a National Calendar based on the Saka Era with Chaitra as its first month and a normal year of 365 days. The days of this Calendar have a permanent correspondence with the days of the Gregorian Calendar, Chaitra 1 falling on March 22 in a common year and March 21 in a leap year. The Government of India in consultation with the State Government decided that the Gregorian Calendar should continue to be used as hitherto for official and like purposes, the National Calendar being adopted with effect from March 22, 1957, along with the Gregorian Calendar, for such official purposes as: (i) The Gazette of India; (ii) News broadcasts by All India Radio; (iii) Calendars issued by the Government of India; (iv) Communications issued by the Government of India and addressed to members of the public.

CHAPTER 19

PLANNING FOR PROGRESS

Planning was born with man. It was one of his first acts to keep his body and soul together. Whether it was instinctive or deliberate is not important. He had to plan what to say and how to say, when and why to act and where and when to hunt his food. Condemned to the isolation of his cave, naked and original, he brooded philosophically over his existence. Later, as a diversion, he started painting his rocky dwelling with mud and other materials. This was his decorative instinct but it was not without an element of planning. By and by, he planned his relationship with his neighbours, resulting progressively in corporate life. But that took ages.

The Evolution of Planning Thus from the beginning of life to the palaeolithic age and then on to the modern times is a long story. Similarly, from the budgeting of one's family needs to the control and regulation of a nation's production and distributive functions is a long history. Planning was practised, in one form or the other, by the governments of ancient Greece, Egypt and Rome. It was in vogue in the Middle Ages through the instrumentality of craft and mercantile guilds. In the modern times, planning was extensively advocated and practised, as an instrument of state policy, by the post-Revolution Socialist Russia. Some spectacular gains were achieved thereby which greatly helped to build up Russia into a highly developed country as we find it today. In fact all governments without ideological considerations, practise some sort of economic planning, such as public works, taxation, tariff regulations, fair trade laws and even immigration laws which are backed largely by national or international economic considerations.

Planning in India. The modern concept of economic planning is not new to India. Planning, as an instrument of state policy, was advocated by politicians and economists long before independence. The Indian National Congress had, in 1938, appointed the National Planning Committee under the Chairmanship of Pandit Jawaharlal Nehru. It was directed to study the economic structure of the country and to formulate plans for its development. The Committee had some of the most renowned economists and intellectuals as its members and during its early working some government experts had also lent their advice and experience.

However, a real start was made only after independence. The Government of India set up the Planning Commission in March 1950. The Commission was asked to prepare a Plan for the "most effective and balanced utilisation of the country's

*On reconstitution, the Planning Commission is composed of the Prime Minister (Chairman), Dr. D.R. Gadgil (Dy. Chairman), Mr. R. Venkata Rao, Mr. B. Venkatappaiah, Mr. Pitambar Pant and Mr. B. D. Nag Chaudhury (Members).

resources." The central objective of planning was defined as initiating "a process of development which will raise living standards and open out to the people new opportunities for a richer and more varied life." The result has been the formulation and successful execution of the three Five Year Plans. The Fourth Plan has already been launched and it takes effect from 1st April, 1969.

FIRST AND SECOND FIVE YEAR PLANS

The First Five Year Plan which covered the period from 1951-52 to 1955-56 laid considerable stress on agriculture, irrigation, power and transport and was meant as a base to achieve more rapid economic and industrial advance in the future. "Planning at this time was a preparatory exercise, aimed at familiarizing the people with the concept of planned development. It did not aim at a basic change in the pattern of development." The Second Plan, while carrying these basic policies still further, also put emphasis on the development of basic and heavy industries. For obvious reasons, the public sector came to play a key role in the development of new industries.

The Second Five Year Plan aimed at : (i) a substantial increase in income so as to raise the standard of the people by 25 per cent ; (ii) development of basic and heavy industries ; (iii) expansion of employment opportunities in general and creation of new jobs for 15 million people ; and (iv) reduction of inequalities in incomes and wealth.

The investment during the two Plans totalled Rs. 10,110 crores, Rs. 5,210 crores in the public sector and Rs. 4,900 crores in the private sector. This brought the annual level of investment in the economy from an average of Rs. 500 crores to Rs. 1,600 crores. Programmes for agriculture including irrigation claimed 31 and 20 per cent of public sector outlay in the First and Second Plans respectively. During the Second Plan period, the share of industries and minerals was increased from 4 per cent in the First Plan to 20 per cent in the Second one. Power claimed 13 and 10 per cent in the two Plans respectively. However, transport and communications received equally high priority in both the Plans and claimed 27 and 28 per cent of the outlays respectively.

The element of external assistance in the case of the First Plan was very small. Out of the total public sector outlay of Rs. 1,960 crores, Rs. 1,772 crores came from the internal sources. During the Second Plan period, foreign assistance was about 24 per cent of the public outlay. Thus resources amounting to Rs. 3,510 crores were raised internally out of the total public outlay of Rs. 4,600 crores for the Second Plan. With the imposition of various direct and indirect taxes, an effort was made to raise maximum resources but ultimately deficit financing had to be resorted to to bridge the gap.

The national income was estimated to have increased by 42 per cent after the two Plans (18 and 24 per cent during the two Plans respectively). But the *per capita* income registered an increase of only 16 per cent due to the phenomenal increase in population. Production of foodgrains increased from 55 million tonnes

in 1950-51 to 82 million tonnes in 1960-61, oil seeds from 5.1 million tonnes to 7.0 million tonnes, cotton from 2.6 million bales to 5.3 million bales, finished steel from 1.04 million tonnes to 2.3 million tonnes, automobiles from 16,500 to 55,000, cement from 2.7 million tonnes to 8.0 million tonnes, coal from 32.8 million tonnes to 55.7 million tonnes and electricity generated from 6,575 million kw. to 24,209 million kw. for the same period.

About 1,200 miles of new railway lines were added, 1,300 miles of railway track doubled and 800 miles electrified by 1960-61. The mileage of surfaced roads increased from 97,000 in 1951 to 1,44,000 in 1961. Students of the Primary stage increased from 42.6 to 62.2 per cent of the children in the respective age group and there was an overall increase in the number of students from 2.35 crores in 1950-51 to 4.47 crores in 1960-61. Students for engineering and technology (Degree level) increased from 4,100 to 13,800 during the same period.

THIRD FIVE YEAR PLAN

After the successful execution of the First and the Second Five Year Plans, the Third Five Year Plan was launched in 1961. Its immediate aim was to :

(i) secure an increase in national income of over 5 per cent per annum, and at the same time ensure a pattern of investment so as to sustain this rate of growth during subsequent years :

(ii) achieve self-sufficiency in foodgrains and increase agricultural production to meet the requirements of industry and exports ;

(iii) expand basic industries like steel, chemicals, fuel and power and establish machine-building capacity with a view to making the country self-sufficient in about ten years ;

(iv) ensure a substantial expansion in employment opportunities ;

(v) reduce disparities in incomes and wealth and to bring about a more even distribution of economic power. The national income was to increase from Rs. 14,500 crores in 1960-61 to Rs. 19,000 crores in 1965-66 and *per capita* income from Rs. 330 to Rs. 385 for the same period.

Outlay for the Third Plan. The total cost of the programmes in the Third Plan, which included certain measures in preparation for the Fourth Plan was estimated at Rs. 8,631 crores for the public sector and Rs. 4,100 crores for the private sector. The estimate of financial resources for the Public Sector, however, was placed at Rs. 7,500 crores. The distribution of this financial outlay (Public Sector only) by major heads is shown on page 515.

Of the total outlay of Rs. 7,500 crores, as indicated in the table, investment (expenditure on capital account) was put at Rs. 6,300 crores for the public sector, leaving Rs. 1,200 crores for the current outlay. Investment by the private sector during the Third Plan period was put at Rs. 4,100 crores, thus making a total investment in the public and private sectors together at Rs. 10,400 crores. The total expenditure was, however, Rs. 8,496

crores—Rs. 996 crores more than the original financial provision. The expenditure on investment increased to Rs. 11,700 crores due to the sudden increase in the defence expenditure in 1962-63.

PUBLIC SECTOR ONLY

(Crores of Rs.)

| <i>Major Head</i> | <i>Outlay</i> | <i>Actual expenditure</i> |
|--|---------------|---------------------------|
| Agriculture, Community Development and Cooperation | 1,068 | 1,089 |
| Irrigation (Major and Medium) | 650 | 665 |
| Power | 1,012 | 1,248 |
| Village and Small Industries | 264 | 222 |
| Organised Industry and Minerals | 1,520 | 1,663 |
| Transport and Communications | 1,486 | 2,112 |
| Social Services and Miscellaneous | 1,300 | 1,497 |
| Inventories | 200 | |
| Total | 7,500 | 8,496 |

The Targets and the Achievements. With the close of the Plan period in March, 1966, the targets of the Plan in the financial terms seemed to have been achieved. But the physical targets in most fields of development remained unfulfilled. This has been due to certain causes which are dealt in detail in the succeeding paragraphs.

Shortfalls in Agricultural Production. The tragic failure of monsoons for two successive years was responsible for overall shortfalls in agricultural production. The index of agricultural production (1950=100) moved up from 142.2 in 1961-61 to 144.8 in 1961-62 but it suffered a sharp decline the next year registering as low a point as 137.5. The third and fourth years of the Plan saw an upward trend when the index moved to 142.6 and 157.6 respectively. But there was a serious set-back in the last year (1965-66) of the Plan when agricultural production fell down to 72.3 million tonnes as against the target of 101.6 million tonnes for that year. The production in 1964-65 was, however, 89 million tonnes. These shortfalls necessitated extensive imports of foodgrains from other countries resulting in drainage of country's foreign exchange earnings.

Foreign Exchange Difficulties. Power schemes in the Second Plan had made slow progress due mainly to foreign exchange difficulties. Consequently, the initial years of the Third Five Year Plan witnessed power shortages throughout the country. With the growing consumption within the country of large quantities of goods produced, there was hardly anything left for export. The exports on the average had, therefore, declined. This had adversely affected imports of machinery and capital

goods in the absence of which some of the usable capacity in the country's industry lay idle.

Aggression on our borders. The unproductive expenditure on the country's defence effort to face external aggression was phenomenal. During the Plan period, India rose thrice to meet an external challenge. China launched an unprovoked aggression in NEFA and Ladakh in 1962. Pakistan had the temerity of settling mutual problems with India by means of force twice in 1965. She intruded in Kutch earlier in the year but later launched a full-scale war resulting in extensive damage on either side. The Jatter war alone cost us Rs.50 crores. In addition, the expansion of the defence forces and equipping them with the latest weapons proved a heavy drain on the foreign exchange resources of the country. Consequently, the prices rose and inflationary conditions were generated.

Other causes that were responsible for a slow rate of growth were : (i) the phenomenal increase in population ; and (ii) the limitations in the way of creating adequate resources within the country to meet the Plan expenditure and fast drying up of foreign aid resources. The extent and flow of foreign aid have come to be determined by the economic and regional strategies as also the ideological considerations of donor countries. The result was that most programmes were inordinately delayed.

The Achievements. The national income in the first four years of the Plan increased by a total of about 18.2 per cent as against an annual increase of 5 per cent postulated in the Plan. According to calculations of National Income made at 1960-61 prices the *per capita* National Income rose from Rs. 326 in 1960-61 to Rs. 348 in 1964-65 but declined to Rs. 325 in 1965-66. Thus in the ultimate analysis, the average annual growth rate for the Plan period was 2.96 per cent per annum as against 3.4 and 4 per cent during the First and Second Plans respectively.

In the industrial sector, the performance was comparatively more encouraging. The production which had suffered decline in the first year of the Plan quickened its pace later with improvement in transport and power capacity. However, a slight decline was noticeable after 1964 which was mainly attributable to the decline in the output of coal and absence of increases in the production of steel, aluminium, cement and jute textiles. Rapid progress was also made in the field of transport. Acute shortages in the freight-moving capacity of railways, experienced in the Second Plan, had been overcome. Road transport programmes made rapid strides. Some gains had been made in the field of social services. Progress in the technical training was most encouraging. Training programmes in health progressed satisfactorily. In regard to employment, though the targets had not been reached, yet the progress was impressive. The Plan was estimated to have created work for 95 lakh persons against the target of 1.05 crores.

The Plan targets of production and development and the achievements secured during the five years are compiled in the following Table :—

| <i>Programme</i> | <i>Unit</i> | <i>Targets</i> | <i>Achieved</i> |
|--------------------------------------|------------------|----------------|-----------------|
| Foodgrains | Million tonnes | 101.6 | 72.3 |
| Oil seeds | " " | 9.7 | 6.1 |
| Sugarcane (gur) | " " | 10 | 12.1 |
| Cotton | " bales | 7 | 4.7 |
| Irrigation (Utilisation) | " acres | 25.60 | 18.60 |
| Soil Conservation | " " | 11.80 | 9.80 |
| Land Reclamation | " " | 3.60 | 4.20 |
| Chemical fertilisers (all kinds) | " tonnes | 1.63 | 0.84 |
| Area under improved seeds | " acres | 204.00 | 170.00 |
| Machine tools (value) | crores of rupees | 30 | 23 |
| Coal | Million tonnes | 98.6 | 70 |
| Iron ore | " " | 30.5 | 22 |
| Petroleum products | " " | 10.2 | 9.9 |
| Cement | " " | — | 10.8 |
| Industrial Production (1956-100) | | 242 | 187.7 |
| Steel ingots | Million tonnes | 9.35 | 6.2 |
| Cotton Cloth | crores metres | 550.4 | 759.4 |
| Power installed capacity | million kw | 12.7 | 10.2 |
| Railways freight carried | " tonnes | 248.9 | 205.0 |
| Shipping tonnage | " gwt | 1.09 | 1.54 |
| Technical education (Engineering) | Thousands | 19.1 | 28.0 |
| Doctors (practising) | " " | 81 | 86 |
| Exports | Crores of rupees | 850 | 806 |

FOURTH FIVE YEAR PLAN

The Fourth Plan Draft (1966) The Third Five Year Plan ended on 31 March 1966. The (first) Draft Outline of the Fourth Plan covering the period from April 1966 to March, 1971 was presented to the Parliament in August, 1966. The Draft Plan was said to have been prepared "at a time of serious national concern about setbacks in agricultural production, high prices and uncertainties in the balance of payments". In the light of the achievements and failures that the Third Plan provided the Fourth Plan was designed to avoid inflation, improve consumption standards and secure more equitable distribution of incomes and wealth, faster development of human resources as also quicker progress towards self-reliance. The Plan envisaged an overall expenditure of Rs. 23,750 crores, comprising Rs. 16,000 crores for the public sector and Rs. 7,750 crores for the private sector.

The "Plan Holiday" However "so much was started and left unfinished during the Third Plan period that a short pause was needed to realize the fruits of the past investment". The Indo-Pak war of 1965, the two bad crop years, complicated further by recessionary tendencies, had made a sizable dent in the resource position for the Fourth Plan. The continued uncertainty over the expected foreign aid was another contributory factor. The successive doses of deficit financing did not succeed in making the economy pick up and instead made the Frankenstein of inflation.

Excessive public sector spending without a cushion in agricultural production created a serious situation. The result was that the Plan was given a short holiday.

Approach to the Fourth Five Year Plan. Nevertheless, the 1967-68 breakthrough in agriculture and a buoyant outlook in industrial production radically changed the situation for the better. The year 1968-69 was, therefore, treated as "essentially a year of transition in which the gains of the current year's good harvest may be consolidated, the economy stabilized and beginnings made for resuming the process of rapid development." Growth with stability, says the Approach Paper, is the main aim of the Fourth Plan. The Approach Paper, prepared by the Planning Commission, was presented to the National Development Council requesting it to provide guidelines for the formulation of the Plan, including assessment of resources therefor. The Approach Paper made recommendations for an annual growth rate of 5 per cent for agriculture, 8-10 per cent for industrial sector and 7 per cent for exports. In addition, it underlined the necessity of price stability, progressive decrease in the import of foodgrains, development of tourism, selective export drive and the ultimate objective of self-reliance. Average rate of domestic savings was proposed to be stepped up from 8 to 12 per cent. Foreign collaboration was to be sought selectively. The Council broadly accepted the recommendations and directed the planners to prepare a draft Five Year Plan.

According to Prime Minister Indira Gandhi, the decision to resume planning from 1st April, 1969 was taken in December, 1967. Soon after, the Planning Commission was directed to start work on the preparation of the Plan Draft. The outlay and main objectives of the Fourth Plan were finalized by the Planning Commission and the Draft was submitted to the Central Cabinet. After detailed discussions with the State Governments and Central Ministries, the Draft was placed before the National Development Council (NDC) on 19 April, 1969.

At the NDC meeting, some of the Chief Ministers (mainly Congress) bitterly criticized the Draft Plan. They wanted more deficit financing to help the States to increase the size of their development plans. Others (mainly non-Congress) presented an ideological stance, totally against the fundamental concept and spirit of the current planning philosophy. As a result of these discussions, it was realized that the outlay for the States was inadequate and that an overall re-examination of Centre-State outlays was necessary. The NDC, therefore, approved with majority backing the Draft Fourth Plan, subject to a review of the States' resources consequent on the award of the Finance Commission in July, 1969. The Chief Ministers of Kerala and West Bengal and the Chief Executive Councillor of Delhi formally registered their opposition to the Draft Fourth Five Year Plan.

The Fourth Plan Draft (1969). This Draft, in its broad outlines, envisaged an outlay of Rs. 24,398 crores, made up of a public sector outlay of Rs. 14,398 crores and a private sector outlay of Rs. 10,000 crores. The public sector outlay of Rs. 14,398

crores was composed of Centre (Rs. 7,207 crores), States (Rs. 6,066 crores), Union Territories (Rs. 398 crores) and centrally sponsored schemes (Rs. 727 crores). The public sector outlay consisted of Rs. 12,252 crores as investment and Rs. 2,146 crores as current outlay.

The Revised Draft Fourth Five Year Plan (1970). The Award of the Fifth Finance Commission was presented to the Government in July, 1969 and the Government's decision thereon was announced on 29 August. Soon after, the Planning Commission conducted discussions with the States which lasted till the year end. The revised Plan outlays were finalized by the Planning Commission by the end of January, 1970 and were approved by the Union Cabinet on 4 February. The Plan was unanimously approved by the National Development Council on 22 March, 1970.

Availability of Additional Resources. On representation by the States, the Central Government agreed to the States augmenting the size of their Plans by additional resource mobilization by means of increased taxation. The States were thus enabled to channelize their additional resources for expenditure on new development schemes of their own but without further demands on the central resources. It was, however, stressed that the additional Plan resources, raised by the States, would not be eaten up by non-Plan budgetary deficits.

The positive contribution of 10 States to the Plan resources comes to Rs. 368 crores. The other 7 States are, however, likely to incur an aggregate deficit of Rs. 320 crores. On account of increased market borrowings, credit liberalization by the nationalized banks and reorientation of investment policies by the L.I.C. and the Provident Fund, the net increase in the resources of the States for the Fourth Plan over the Draft Plan (1969) estimates now works out at Rs. 540 crores—Rs. 201 crores of net additional market borrowings plus Rs. 339 crores of net additional domestic budgetary resources. Consequently, the outlay of the States' Plans has gone up to Rs. 6,606 crores as against Rs. 6,066 crores in the 1969 Draft. The net increase in the resources of the Centre over the Plan Draft (1969) now stands at Rs. 964 crore. The Centre's Plan including the centrally sponsored schemes and the outlay on the plans of the Union Territories, has accordingly increased from Rs. 8,332 crores to Rs. 9,226 crores.

Bank deposits will now grow at a compound rate of 11 per cent as against the earlier estimated 7 per cent. This has been made possible by the nationalized banks' positive policy to open branches in the hitherto unbanked and rural areas. The aggregate increase would now be Rs. 3,000 crores as against Rs. 1,900 crores estimated earlier. According to the revised estimates, the Centre, the States and the state enterprises will be able to raise funds by borrowing to the tune of 955 crores as against Rs. 400 crores estimated earlier.

Objectives of the Fourth Plan. The fundamental objectives of the Fourth Five Year Plan are precisely the same as those of the earlier Plans. The Fourth Plan document, however, is a more

realistic and pragmatic approach to development. It clearly demarcates the regions where the development activity will be concentrated to achieve definite, calculated results with special regard to removal of disparities, attainment of economic and price stability and reduction in foreign aid. The Fourth Plan is a "Swadēshi Plan" as it envisaged self-reliance, to be achieved progressively, total stoppage of imports of foodgrains by 1970-71 and curtailment of 50 per cent of foreign aid by the end of Fourth Plan period. The detailed objectives of the Plan are as follows :--

1. The objective of planning in the country must be not only to raise the *per capita* income but also to distribute the gains in such a manner as it levels disparities and does away with social tensions that threaten democratic society. Strong measures will be launched to check concentration of economic power in fewer hands.

2. With a view to achieving better distribution of gains from planning, more investment will be made in the under-developed regions and among the backward sections of the community to eliminate regional imbalances.

3. The Plan aims at rapid development and sustained, self-reliant growth, accompanied by stability.

4. Sustained growth must lead to complete self-reliance within a reasonable period. Dependence on foreign aid would be reduced to 50 per cent of the current needs.

5. The Plan is calculated to give a growth rate of 5.5 per cent, agricultural growth rate of 5 per cent, of industry 8-10 per cent and of exports 7 per cent. Rate of aggregate domestic savings will be raised from 8 to 13.2 per cent.

6. Price levels of foodgrains and essential consumer goods would be kept stable. For this purpose, sizable buffer stocks will be built up to even out the supplies of foodgrains.

7. Import of foodgrains on concessional terms must stop by 1970-71.

8. Greater attention will be paid to the cooperative sector, especially in the agricultural field.

9. Free and compulsory education up to the age of 14 will be provided. Greater emphasis will be laid on revocationalization of education at the secondary stage.

The Plan Outlays. On account of improvement in the resource position of the Centre and the States, the total resources now expected to be available for development are worth Rs. 24,882 crores. Of this aggregate outlay, the public sector claims Rs. 15,902 crores and private sector Rs. 8,980 crores. Compared with the Draft Plan of 1969, the public sector resources have now increased by Rs. 1,504 crores (Centre : Rs. 964 crores and States : Rs. 540 crores) while those for the private sector have decreased by Rs. 1020 crores, resulting in an overall improvement of Rs. 484 crores in the resources of Fourth Five Year Plan.

The distribution of public and private sector outlays under main heads of development proposed are given below :

TABLE 1

Fourth Plan Outlay—Public and Private Sectors (crores of Rs.)

| Head of development | Public sector outlay | Private investment | Total outlay |
|---------------------------------------|----------------------|--------------------|--------------|
| Agriculture and allied sectors | 2728 | 1600 | 4328 |
| Irrigation and flood control | 1087 | | 1087 |
| Power | 2448 | | 2448 |
| Village and small industries | 293 | 860 | 1153 |
| Industries and minerals | 3338 | 2000 | 5338 |
| Transport and communications | 3237 | 920 | 4157 |
| Education | 823 | 50 | 873 |
| Scientific research | 140 | | 140 |
| Health | 435 | | 435 |
| Family Planning | 315 | | 315 |
| Water supply and sanitation | 406 | | 406 |
| Housing and urban development | 237 | 215 | 452 |
| Welfare of backward classes | 142 | | 142 |
| Social welfare | 41 | | 41 |
| Labour welfare and craftsmen training | 40 | | 40 |
| Other programmes | 192 | | 192 |
| Inventories | | 1600 | 1600 |
| Total | 15902 | 4980 | 20882 |

States' resources for the Fourth Plan and the Central assistance to the States are tabulated below :

TABLE 2

| States | Resources excluding additional resource mobilisation | Additional resource mobilisation | Central assistance | Total Plan |
|-----------------|--|----------------------------------|--------------------|----------------|
| Andhra Pradesh | 45.50 | 135.00 | 240.00 | 420.50 |
| Assam | 16.75 | 25.00 | 22.00 | 63.75 |
| Bihar | 93.28 | 100.00 | 338.00 | 531.28 |
| Gujarat | 254.72 | 12.25 | 18.00 | 284.97 |
| Haryana | 116.19 | 30.31 | 78.50 | 225.00 |
| Jammu & Kashmir | 1.40 | 9.00 | 155.50 | 165.90 |
| Kerala | 33.35 | 50.00 | 175.00 | 258.35 |
| Madhya Pradesh | 38.00 | 83.00 | 262.00 | 383.00 |
| Maharashtra | 572.62 | 80.00 | 245.50 | 898.12 |
| Mysore | 110.00 | 73.00 | 173.00 | 356.00 |
| Nagaland | 4.82 | 0.18 | 35.00 | 40.00 |
| Orissa | 28.00 | 34.60 | 160.00 | 222.60 |
| Punjab | 136.14 | 59.42 | 101.00 | 296.56 |
| Rajasthan | 32.00 | 50.00 | 220.00 | 302.00 |
| Tamil Nadu | 232.36 | 85.00 | 202.00 | 519.36 |
| Uttar Pradesh | 264.00 | 175.00 | 526.00 | 965.00 |
| West Bengal | 31.50 | 70.00 | 221.00 | 322.50 |
| Total | 2007.63 | 1498.79 | 3500.00 | 6006.42 |

The increase in the outlays in the States (and the Union Territories) will be mainly due to agricultural programmes of minor and medium irrigation, cooperation, power and flood control, roads, rural water supply, housing and welfare of backward

classes. The increase in outlays for the public sector will mainly go to fresh schemes and expansion of continuing schemes, increases on account of larger spill over of expenditure of continuing schemes and escalation of costs and several schemes and outlays which were left out in the Draft Plan (1969) but now have been included. With a view to effecting minimum increases in the outlays, non-Plan expenditure has been excluded and allocations for certain other projects have been considerably reduced.

Resources for the Plan. The estimated public sector outlay of Rs. 15,902 crores is proposed to be financed as under :—

| | | |
|--|-----|------------------|
| • Domestic Budgetary Resources | ... | Rs. 8,734 crores |
| Additional resource mobilisation (both Centre and States) | ... | Rs. 3,198 crores |
| Loans and market borrowings (domestic sources) | ... | Rs. 506 crores |
| *Foreign Aid | | |
| Other than PL 480 | ... | Rs. 2,234 crores |
| PL 480 Assistance | ... | Rs. 380 crores |
| Deficit Financing | ... | Rs. 850 crores |

Aggregate Resources ... Rs. 15,902 crores

Selected Targets and Estimates. An attempt has been made to fully develop the potential of the country under the present political and social framework. It has been ensured that development proceeds under stable conditions towards maximum self-reliance. On the basis of the programme of investment proposed and the level of outputs expected to be reached in different sectors by 1973-74, the Plan stipulates an overall growth rate of 5.5 per cent per annum with agriculture showing an upward annual increase of 5 per cent, industry 8-10 per cent and exports 7 per cent. The national income will rise from Rs. 13,303 crores in 1960-61 to Rs. 22,450 crores in 1974 (at 1960-61 prices). The targets arrived at and results anticipated in the selected fields are given below :

TABLE 3
Selected Targets and Estimates

| Item | Unit | 1968-69 Estimated | 1973-74 Target Estimates |
|---|------------------|----------------------|--------------------------------|
| 1 | 2 | 3 | 4 |
| Foodgrains production | million tonsen | 98 | 129 |
| High yielding varieties (area covered) | million hectares | 8.5 | 24.1 |
| Area irrigated major, medium & minor | million hectares | 36 | 43.4 |
| Steel ingots | million tonnes | 6.5 | 10.8 |
| Machine-tools | Rs. crores | 25 | 65 |
| Sulphuric acid | thousand tonnes | 1020 | 3500 |

*However, prospects of foreign aid are highly uncertain. In 1969-70, aid authorizations amounted to just over Rs. 600 crores against the accepted Indian needs totalling Rs. 825 crores.

| 1 | 2 | 3 | 4 |
|---|-----------------|-------|-------|
| Refining capacity in terms of crude oil | million tonnes | 16.13 | 26 |
| Fertilizers | | | |
| Nitrogenous (n) | thousand tonnes | 550 | 3000 |
| Phosphatic (p 205) | thousand tonnes | 220 | 1500 |
| Cement | million tonnes | 12.5 | 18 |
| Cloth—mill made | million metres | 1400 | 5100 |
| Mill made fibre fabrics | million metres | 975 | 1500 |
| Handloom, powerloom & khadi | million metres | 3400 | 4250 |
| Coal excluding lignite | million tonnes | 69.5 | 93.5 |
| Power installed capacity | million kw | 14.5 | 22 |
| Railway freight carried | million tonnes | 703 | 265 |
| Surface roads | thousand kms | 317 | 367 |
| Students in Schools | million nos | 75.2 | 97.2 |
| Hospital beds | thousand nos | 255.7 | 281.6 |
| Doctors practising | thousand nos | 102.5 | 137.9 |
| Family planning centres | | | |
| Rural | numbers | 4840 | 5225 |
| Urban | numbers | 1856 | 1858 |

States and the Planned Development Excessive financial dependence of States on the Centre characteristic of the present-time Centre-States relations, cannot be justified on any count. At present 60 per cent of Plan expenditure by States is met from central assistance in the form of loans. Centre's loans to the States have risen from Rs. 200 crores in 1951 to about Rs. 6,000 crores as at present. Heavy debt repayments have forced many States to demand rescheduling of the debts while, paradoxically, asking the Centre for more and more funds in the shape of loans. In spite of a larger share in taxes and grants allowed to the States under the Award of the Fifth Finance Commission, the States' budgets for 1970-71 show an aggregate deficit of Rs. 227 crores. In addition, the States' overdraft on the Reserve Bank amounts to over Rs. 120 crores. It will, therefore, be good for the economic health of the States to raise the level of their resource mobilization, tax those productive sectors which are the direct beneficiaries of the development plans and to diversify economic activity for greater gains in production and a broad-based fiscal structure.

Employment. According to a Government statement in the Lok Sabha, the upward revision of the Fourth Plan outlays was primarily job-oriented with stress on labour-intensive sectors like agriculture and agro-industries, irrigation, housing, power, small scale industry and cooperative sector. The increases in allocation were in agriculture (Rs. 500 crores), irrigation (Rs. 134 crores) and power (Rs. 371 crores). According to initial calculations, the virtual shifting of capital from urban areas to countryside is likely to create considerable employment opportunities.

According to some experts, the existence of social tensions, juvenile outbursts of agitation and violence and the prevailing discontent are the direct product of unemployment or underemployment. The problem of unemployment has since reached gigantic proportions—about 14 million people have no jobs at present. To this may be added many more millions of the partially employed

in rural and semi-urban areas. It is worth mentioning that the three Plans had created, between 1951 and 1969, additional employment for about 42.5 million people—11 million in agriculture and 31.5 million elsewhere. Nevertheless, the backlog of the unemployed that stood at 3.3 million in 1961 rose to 12.6 million in 1969 and 14 million in 1970. Of these, more than 5.5 million were educated unemployed. As per present computations, 28 million would be added to this number during the Fourth Plan period, raising the number of job seekers to 42 million including 1 lakh unemployed engineers. The Fourth Plan promises to provide employment to about 16 million people (if the annual rate of growth is maintained at 5.5 per cent) which fact leaves the backlog of the unemployed at 26 million people by 1974. It is on account of this deteriorating employment situation that President V.V. Giri has, on various occasions recently, warned that “unemployment is the most serious problem facing the economy”, stressing that only job-oriented planning holds the key to political peace and social contentment in the country. The need of the hour, therefore, is to get the economy moving as fast as possible with the “maximum dispersal of productive activity” and, at the same time, to check population to stay at a reasonable level.

Inflation. Another danger that threatens our planned activity and economic health is the existence of conditions of hyperinflation. Their growth has so far remained unchecked largely for reasons beyond the control of the Government. The all India index number of wholesale prices (base 1952-53 = 100) increased from 135 in 1963 to 217.2 in February, 1970. During the same period, the consumer price index for working classes (base 1949 = 100) shot up from 134 to 215. The general price level has risen from 1961 by 74 per cent, food index by 97 per cent and the consumer price index by 66 per cent. The price rises during the period 1964-66 are attributable to succession of droughts, escalation of defence expenditure and a general fall in production. But the spurt in prices in 1969-70 (a rise of 6.2 per cent) when food production had touched an all time high and when the whole economy had a buoyant outlook is beyond normal comprehension. One shudders to think that if revolutionary progress in agriculture and sustained industrial recovery have failed to check the rise in prices, what will happen if both agriculture and industry have a lean season again for a couple of years. Judicious regulation of money supply, a strong curb on the continued expansionary pull on currency (thus restricting deficit financing to the minimum), a rational fiscal policy, an effort at progressively increasing saving potential and sustained export rate will go a long way to promote “growth with stability”, envisaged in the Plan.

Foreign Aid. Since the appearance of Draft Plan (1969), prospects of increased foreign aid have moderately brightened up in so far as an additional amount of Rs. 100 crores in the form of commodity aid from international agencies and foreign governments would be forthcoming. The gross external assistance expected is estimated at Rs. 3,830 crores for the Fourth Plan. Out of this

aid, Rs. 1,216 crores will go towards repayment of external loans thus reducing the net foreign aid to Rs. 2,614 crores. In spite of buoyancy in foreign aid expectations, India should learn to be progressively self-reliant and increasingly dependent on internal resource mobilization so that the economy is not made susceptible to excessive stresses and strains when the foreign aid flow suddenly gets choked due to considerations of global strategy of the donors.

Exports. Total gross foreign assistance for the Fourth Plan is estimated at Rs. 3,830 crores. As against this, total foreign exchange requirements would be of the order of Rs. 12,000 crores. Thus after accounting for the foreign assistance, the balance of foreign exchange would be over Rs 8,000 crores. To meet this huge deficit, the annual exports must increase from Rs. 1,410 crores in 1969-70 to Rs. 1,900 crores in 1973-74 which comes to a compound rate of 7 per cent.

In a 3,500-word 'Resolution', presented to the Lok Sabha on 30 July, 1970, the government spelt out its broad policy measures to boost the country's exports to reach the targeted compound rate of 7 per cent. The document envisages gearing up of the nation's entire economy, both agricultural and industrial, to promote a gigantic export drive to which end the government's current industrial and licensing policies will be scrupulously employed. Some later measures indicate that export promotion is considered next only to Defence in importance.

CHAPTER 20

INDIA ON THE MARCH

DEFENCE

The President of India is the Supreme Commander of the country's Armed Forces. The Ministry of Defence and the three Services Headquarters are responsible for the administrative and operational control of the Armed Forces. The main function of the Ministry is to ensure that :

- (i) the development and activities of the three Services are properly coordinated ;
- (ii) decisions on policy matters are obtained from the Government, transmitted to the three Headquarters and implemented; and
- (iii) necessary financial sanction for defence expenditure is obtained from the Parliament.

The Three Services—the Army, the Air Force and the Navy—function under their respective Chiefs. The present Chiefs of the three Services are :—

Chief of the Army Staff ... General S.H.F.J. Manekshaw
 Chief of the Air Staff ... Air Chief Marshal P.C. Lal
 Chief of the Naval Staff ... Admiral S. M. Nanda.

The Commissioned Ranks in the Army, Air Force and Navy are as follows :—

| <i>Army</i> | <i>Air Force</i> | <i>Navy</i> |
|--------------------|-------------------|----------------------|
| Second Lieutenant | Pilot Officer | Warrant Officer |
| Lieutenant | Flying Officer | Sub-Lieutenant |
| Captain | Flight Lieutenant | Lieutenant |
| Major | Squadron Leader | Lieutenant Commander |
| Lieutenant Colonel | Wing Commander | Commander |
| Colonel | Group Captain | Captain |
| Brigadier | Air Commodore | Commodore |
| Major General | Air Vice Marshal | Rear Admiral |
| Lieutenant General | Air Marshal | Vice Admiral |
| General | Air Chief Marshal | Admiral |

The Army

The Army Headquarters, located in Delhi, is headed by the Chief of the Army Staff and it maintains administrative and operational control over the Army. The Chief of the Army Staff is assisted by the Vice Chief of the Army Staff, the Deputy Chief of the Army Staff, the three Principal Staff Officers (of the rank of Lt. Gen.) designated as the Adjutant General, the Quartermaster General and the Master General of the Ordnance, the Engineer-in-Chief and the Military Secretary.

The Army is organised into four Commands—Southern, Eastern, Western and Central—each under a Lieutenant General, designated as General Officer Commanding-in-Chief (GOC-in-C). The Commands are further divided into Areas and Sub-Areas. The combat forces are organised, to begin from the top, into Corps, Divisions, Brigades and Battalions. A Battalion is further divided into Companies, Platoons and Sections.

Training Institutions

National Defence College. Started at New Delhi in 1960, the College is designed on the pattern of the Imperial Defence College in the U.K. to train the senior officers of the three Services. Its main function is to enable students to study the military, scientific, industrial, social, economic and political factors involved in war as also the higher direction and strategy of warfare.

Defence Services Staff College. Located at Wellington, the College imparts training to serving officers on an inter-Service basis. The training is for grade staff appointments. It has training facilities for 150 students.

National Defence Academy, Kharakvasla. It conducts a three-year course for the combined basic training of cadets of all the three Services after which they are sent for specialised training at their respective Service establishment. Admission to the Academy is made on the basis of a qualifying biannual written examination conducted by the U.P.S.C., followed by an interview before a Services Selection Board.

Rashtriya Indian Military College, Dehra Dun. Run on the lines of public schools, the College prepares future officers for the three Services by imparting preliminary pre-cadet training to such pupils as desire subsequently to choose a military career.

Armed Forces Medical College, Poona. It imparts training to newly commissioned medical officers and runs refresher course for medical officers of the Armed Forces to keep them up-to-date in their profession.

The Indian Military Academy, Dehra Dun. It is the premier centre for training officers of the Army. Cadets after doing their training at National Defence Academy, Kharakvasla, are trained here for a year before commissioning.

The Air Force

The Chief of the Air Staff is assisted by four Principal Staff Officers, designated as the Vice-Chief of the Air Staff, the Deputy Chief of the Air Staff, the Air Officer-in-Charge, Administration, and the Air Officer-in-Charge, Maintenance. The Air Force is divided into five Commands, viz, the Western Air Command, the Eastern Air Command, the Central Air Command, the Training Command and the Maintenance Command.

The Air Force fleet consists of the following aircraft* :—

- Fighters —Vampires, Toofanis, Mysteres, Hunters, Gnats and MIG 21s.
- Transport —Dakotas, Fairchild Packets, Otters and Caribous.
- Helicopters —MI-4s, Bell and Alouette-III.
- Training —India-built HT-2, the T6G Texan and the Vampires.
- Bombers —Canberras.

Training Institutions. The important training institutions of the Air Force are the Pilot Training Establishment at Allahabad,

*About 20 kinds of aircraft are at present in use with the Air Force.

Air Force Flying College, Jodhpur, Jet Training and Transport Training Wings of I.A.F. at Hyderabad and Yelahanka for advanced flying and conversion training of jets, Air Force Administrative College, Coimbatore and Air Force Technical College, Jallahalli. An Air Defence and Guided Missiles Training Centre, is being established at Gopalpur-on-Sea, about 100 miles south of Bhubaneswar.

The Navy

There is a Naval Headquarters at New Delhi, headed by the Chief of the Naval Staff. The Chief of the Naval Staff is assisted by four Principal Staff Officers, designated as Vice Chief of the Naval Staff, the Chief of Personnel, the Chief of Material and the Assistant Chief of the Naval Staff. The Naval Secretary functions as Secretary to the Naval Chief. The Naval Headquarters exercises control over the Navy through the following Commands :—

Western Naval Command (Bombay)

Eastern Naval Command (Vishakhapatnam)

Southern Naval Command (Cochin).

The former Southern Naval Area (Cochin) has recently been formed into India's third Naval Command with headquarters at Cochin and commanded, like other Commands, by a Rear Admiral, designated as Flag Officer Commanding-in-Chief.

Training Centres. Training of all officers and men of the Navy is undertaken at the main naval training centres located at Cochin, Bombay and Vishakhapatnam. The principal technical training centres are INS *Venduruthy* (gunnery and communications), INS *Garuda* (training aircraft), INS *Shivaji* (engineering) and INS *Valsura* (Electricals). A new helicopter training school with the most sophisticated anti-submarine helicopters is to be established at Cochin.

Semi-Military Organisations

Territorial Army. Raised in 1949, it is designed to give the youth of the country an opportunity of receiving military training in their spare time and to serve the country in times of emergency by providing units to the Army and taking over responsibility for internal security. It has two types of units—provincial and urban. While under training and during times of embodiment, the officers and men are considered at par with the regular officers and men for service conditions and monetary benefits.

National Cadet Corps. It consists of three Divisions, namely Senior, Junior and Girls. The Senior and Junior Divisions are composed of three Wings—Army, Navy and Air Force. Participation in N.C.C. was made compulsory for all able-bodied male college students in 1964. However, in March, 1968, the male students were allowed to choose between the N.C.C. and two new schemes—the National Service Corps (NSC) and the National Sports Organization (NSO). Participation in the three Corps by female students was made voluntary. Similar recommendations were earlier made by the Education Commission and the State Chief Ministers' Conference. The three programmes are designed to inculcate in the students discipline, national consciousness, experience in community

living, social service, physical fitness and training in civil defence. The NSO is meant at promotion and propagation of sports among the students.

The strength of the NCC Senior Division will now be 8.25 lakhs and of the Junior Division 7.6 lakhs. Voluntary and selective participation in the NCC would help devise more intensive training and introduction of such new subjects as military history, geography, acquaintance with the latest arms and the country's defence set-up. The total expenditure on a Senior Cadet per year is Rs. 161, shared by the Centre (Rs. 103) and the State concerned (Rs. 58).

EDUCATION AND SCIENTIFIC RESEARCH

Education

Education is primarily the responsibility of the State Governments. The Central Government, however, co-ordinates educational facilities and determine standards in respect of higher education through the University Grants Commission. The Central Government is also responsible for running the four universities namely the Aligarh Muslim University, the Banaras Hindu University, the Delhi University and the Visva Bharti University, Shantiniketan.

In July, 1968, the Central Government recommended a progressive increase in the outlay on education to ultimately reach the level of six per cent of the national income. The programme envisages equalization of educational opportunities by removal of regional imbalances, provision of extensive educational facilities to the rural areas, compulsory education up to the age of 14 years and uniformity in educational standards including adoption of common school system.

State of Literacy. According to the Census of 1961, there were about 10.55 crore literate persons in India. In other words, only 24 per cent of the total population of the country can read or write. The literacy percentages for males and females are 34.5 and 13.0 respectively.

Primary and School Education. Legislation for compulsory primary education has already been enacted in Andhra Pradesh, Assam, Gujarat, Madhya Pradesh, Mysore, Punjab, Rajasthan, West Bengal and Delhi. Numerous schemes are in hand to set up enrolment in schools. Plans have also been drawn up to train 15 lakh teachers. The school education is now being reoriented on the pattern of Basic Education wherein the process of learning is correlated with the physical and social environment of the children. Socially useful subjects like spinning and weaving, gardening, carpentry, leather work, pottery and elementary engineering are being taught at the schools along with usual subjects. The National Institute of Basic Education was set up in 1956 to conduct research and offer training and guidance to teachers in basic education.

Higher and University Education. Higher Education in India is imparted through arts and science colleges, professional colleges, special educational colleges, research institutions and universities. There are 84 universities in India including 10 institutions which are deemed to be Universities imparting education in arts and sciences, and about 140 engineering and technical institutions teaching

degree-level courses. The Central Government is responsible for the maintenance of 5 Universities *e. g.* Aligarh Muslim University, Banaras Hindu University, University of Delhi, Vishva-Bharati University, Shantiniketan and Jawaharlal Nehru University, New Delhi. The number of diploma-level engineering and technology institutions was 284. Facilities for 75,000 students for degree and diploma in engineering and technology existed in these institutions. In 1968-69, 18.31 lakh college students were studying in technical and non-technical institutions. The National Council of Educational Research and Training (NCERT) was formed as an autonomous body in 1961 to undertake, aid and promote research in all branches of education, to disseminate improved techniques and practices and to develop and improve multipurpose secondary education.

University Grants Commission. On the recommendations of the University Education Commission, the University Grants Commission was established in 1953. It was later made an autonomous statutory body by an Act of Parliament in 1956. The Commission is charged with the responsibility of promotion and co-ordination of university education and determination and maintenance of the standards of teaching, examination and research in universities. The Commission makes grants to different universities and implements development schemes. At present, Dr. D.S. Kothari is the Chairman of the Commission. (*I. A. S., 1963; U.P. Civ. Ser. 1965*)

Scientific Research

Following are the important national laboratories, institutes and units set up by the Council of Scientific and Industrial Research, Government of India.

| Name | Location |
|---|--|
| National Physical Laboratory | New Delhi |
| National Chemical Laboratory | Poona |
| Central Fuel Research Institute | Jealgora (Bihar) |
| Central Glass and Ceramic Research Institute | Jadavpur (Calcutta) |
| Central Food Technological Research Institute | Mysore |
| National Metallurgical Laboratory | Jamshedpur |
| Central Drug Research Institute | Lucknow |
| Central Road Research Institute | New Delhi |
| Central Leather Research Institute | Madras |
| Central Building Research Institute | Roorkee |
| Central Electronics Engineering Research Institute | Pilani (Rajasthan) |
| Central Scientific Instruments Organization | Chandigarh |
| Central Electro-Chemical Research Institute | Karaikudi (Tamil Nadu) |
| Regional Research Laboratory | Hyderabad, Jammu, Jorhat, Bhubaneswar |
| National Botanical Gardens | Lucknow |
| Central Salt and Marine Chemical Research Institute | Bhavnagar (Gujarat) |

| | |
|---|-----------------|
| Central Mining Research Station | Dhanbad (Bihar) |
| Indian Institute of Experimental Medicine | Calcutta |
| Birla Industrial and Technological Museum | Calcutta |
| Central Mechanical Engineering Research Institute | Durgapur |
| National Aeronautical Laboratory | (West Bengal) |
| Indian Institute of Petroleum | Bangalore |
| National Geophysical Research Institute | Dehra Dun |
| National Institute of Oceanography | Hyderabad |
| | New Delhi |

Atomic Energy

The Atomic Energy Commission is responsible for planning and formulating the programme for the development of atomic energy for peaceful purposes. Greater use of the atomic energy is being made in agriculture, biology, industry and medicine. Atomic energy is also being developed as a source of cheap electric power.

Atomic Energy Establishment at Trombay, near Bombay, is the main centre for research and development of atomic energy. It houses three nuclear reactors, namely :

- (i) "Apsara", a one-megawatt, pool type reactor ;
- (ii) "Canada-India Reactor", a 40-mw reactor and potentially one of the world's largest isotope producers ; and

(iii) "Zerlina", a zero energy experimental reactor.

The Radio-Chemistry and Isotope Laboratories at Trombay are producing radio-isotopes and labelled compounds which are sufficient to meet the growing national demand for these versatile tools of the Atomic Age. Some quantities are also exported to countries in Asia, Africa and Europe. A Radiation Medicine Centre was set up in 1963 to use radio-isotopes in the diagnosis and treatment of diseases.

In the field of atomic power, work on two stations deserves special mention. A 3.80 lakh-kw. station at Tarapore, 96 kilometres from Bombay, was formally inaugurated in January, 1970. The second station is being established at Rana Pratap Sag in Rajasthan with an initial capacity of 2 lakh-kw. to be doubled later. Another 4 lakh kw. atomic power station will be put up at Kalpakkam near Mahablipuram in Tamil Nadu during the Fourth Plan period. According to these estimates, about 10 lakh-kw. of electricity from atomic energy will be generated by the end of the Fourth Plan.

CULTURAL ACTIVITIES

The post-independence era has seen a conscious revival of arts and culture. The spirit of national pride has brought about consciousness among the people of their cultural heritage. It is being increasingly realised that while food and bodily necessities are of the primary importance, food for thought is equally important for maintaining the health of the soul. This realisation has furnished resuscitation to our arts that had lain dormant due to an attitude of general apathy. The result has been the rehabilitation of our folk lore and dance forms. Moving with the spirit of time, the Government of India has established a number of institutions for the promotion of our traditional arts.

Lalit Kala Akademi. It was set up in 1954 to help promote the development of fine arts and to undertake programmes of work for the growth and nourishment of painting, sculpture and other graphic arts. The Akademi holds a National Exhibition of Arts every year at New Delhi which later visits State capitals. Some publications of rare paintings of the Mughal, Kangra and Pahari Schools have been brought out by the Akademi. It also makes annual Awards to outstanding artists participating in the National Exhibition of Art. The recipients of Lalit Kala Akademi Awards, 1969 are : Jagmohan Chopra and Bimal Banerjee (*graphic painters*), Balbir Singh Katt (*cement*), S. Nandgopal (*copper*), Ishwar-chand Gupta (*Terracotta*), Jayant Parikh, Ishwar Sagar, Paramjit Singh and Prem Nath (*oil painters*).

Sangeet Natak Akademi. The Sangeet Natak Akademi was established in 1953 with a view to fostering the arts of dance, drama and music. It was registered as a society in 1961. It promotes research, encourages setting up of theatre centres and training institutions, organises seminars and festivals and awards prizes to the prominent exponents of these arts. The Akademi also organises drama competitions and encourages writing and staging of new plays. Following is the list of the recipients of the Akademi Awards for 1969 :—

Music. Mohd. Dabir Khan (Hindustani : Instrumental) ; Ram Chatur Mallick (Hindustani : Vocal) ; Dandapani Desikar (Karnatic : Vocal) and Devakottai Narayana Iyengar (Karnatic : Instrumental).

Dance. Ojha Thangjam Chaoba Singh (Manipuri) ; C. Kunchu Nair (Kathakali) ; Mrs. Sitara Devi (Kathak) and Swaminatha Pillai (Bharat Natyam : for teaching).

Drama. Gahan Chandra Goswami (traditional theatre : Ankiya Nat), Habib Tanvir : (play production : Urdu), Manmatha Roy (play-writing : Bangali) and N.N. Pillai (acting : Malayalam).

Sahitya Akademi. Inaugurated in 1954, the Sahitya Akademi is "a national organisation to work actively for the development of Indian letters and to set high literary standards, to foster and co-ordinate literary activities in all the Indian languages and to promote through them all the cultural unity of the country". The Akademi has brought out some books of rare merit of the various languages of India.

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Maithili (Du Patra) : Upendra Nāth Jha
Malayalam (Kavile Pattu) : E. Govindan Nair
Marathi (Natyacharya Deval) : S.N. Bhanhatti
Oriya (Nila Saila) : Surendra Mohanty
Punjabi (Na Dhuppe Na Chhaven) : Dr. Harbhajan Singh
Sindhi (Sindhi Nasr Ji Tarikh) : M.R. Malkani
Tamil (Pichirandaiyar) : The late Bharati Dasan
Telugu (Mahatma Katha) : F. Seetharamamurthy
Urdu (Bisat-i-Raqs) : The late Makbdoom Mohiuddin.

National Book Trust. Set up in 1957, the Trust promotes the production of good literature and makes such works available at moderate prices to libraries, educational institutions and the public. So far, it has brought out 125 publications.

FAMILY PLANNING

According to reliable estimates, India's population in 1970 was 549 million and grew at the annual rate of 2.5 per cent. It is expected to be 564 million in 1971 and about 730 million in 1981. This phenomenal increase in population, also described as population explosion, has already outstripped our capacity to produce, resulting in shortage of foodgrains throughout the year. The family planning policy, therefore, aims at reducing birth rates to stabilise the population at a "level consistent with the requirements of national economy." It is to change an individual's behaviour patterns and attitudes in extremely personal and private matters.

The Third Five Year Plan envisaged an expenditure of about Rs. 27 crores to propagate the concept of family planning and also to provide people with contraceptives and literature. The Fourth Plan has an ambitious programme to popularise the concept at a cost of Rs. 315 crores*. At present there are about 12,000 family planning centres in India whose working will be reoriented. There are 5 Central Training Institutes and 42 regional Family Planning Training Centres for training the family planning staff. The I.U.C.D. programme was launched in July, 1966. About 2,000 doctors have been trained in the techniques of I.U.C.D. insertions. There are at present about 750 static and about 30 mobile units that have been performing insertions. People are being educated through radio, group meetings, film shows, advertisements etc. Family planning orientation camps are also being organised.

The Central Family Planning Board, constituted in 1956, has now been superseded by the Central Family Planning Council. A Cabinet Committee on Family Planning has also been constituted at the Centre to review the programme from time to time and effect decisions in important matters without delay. The objective of the family planning drive is to bring down the birth rate from the present 41 to 22 per thousand b. 1976-77. The programme envisages sterilization at the rate of six per 1,000 population for a period of about 10 years. Nearly 70 per cent of the 97 million

*A \$ 20 million (Rs. 15 crores) grant was also made to India by the USA in June, 1970 for the former's expanded and accelerated family planning programmes.

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couples in the reproductive age live in the rural areas. 80 per cent of these areas are inaccessible to the modern media of mass communication. In spite of this, 7.6 million people were sterilized up to June, 1970. Nearly 3.4 million women had accepted the loop. 40 million couples, already with one or two children, were persuaded to use contraceptive devices thereby postponing the arrival of further children. 50 million *Nirodhs* were distributed in 1968-69. A trial programme for oral contraceptives has also been initiated.

AGRICULTURE

While the times have changed in the political, economic and social sense, Indian agriculture still remains "a gamble in rain-fall". Statistically speaking, during the period 1950-51 to 1962-63 the net irrigated area had increased by 49 lakh hectares and numerous irrigation schemes had been launched to pull the agriculture out of the morass of stagnation. But, due mainly to the circumstances on which the people and the government have no control, agriculture till recently failed to make considerable headway. Dr. Lokanathan, however, opines that agricultural problem in India is largely a management problem implying that a great percentage of our production potential is wasted due to mismanagement of otherwise adequate resources.

About 70 per cent of the people in India are dependent on land for their living. Agriculture accounts for nearly half of the country's national income. It provides the necessary raw materials to our industries and makes their wheels hum in activity. Rated as the top producer of groundnuts and tea, India is the second largest producer of rice, jute, raw sugar, rapeseed, sesamum and castorseed. According to land utilisation statistics, about 29.98 crore hectares or 91.8 per cent of the country's total geographical area of 32.68 crore hectares is under total or partial use. Of the total area under cultivation, nearly 19 per cent is irrigated, 49 lakh hectares of which was brought under irrigation since 1950-51. The outstanding features of agricultural production comprise the variety of crops raised and the judicious emphasis on food crops rather than on the cash crops.

There are two well defined crop seasons in India -the kharif and the rabi. Major kharif crops are rice, jawar, bajra, maize, cotton, sugarcane, sesamum and groundnut. Major rabi crops are wheat, barley, gram, linseed, rape and mustard. Wheat and grams, the most important rabi crops, are sown in October-November and take about six months till harvesting. Rice has, however, no fixed one season. It is raised in winter, autumn as well as in summer, and its duration till harvesting also ranges between 2 and 6 months.

Production of Foodgrains. The first three years of the Third Five Year Plan, made nominal increases in agricultural production. However, the fourth year was marked for very favourable weather conditions and the production of foodgrains and oilseeds registered heavy gains. The total production of food reached 88.4 million tonnes in 1964-65 which was an increase of 10.2 per cent over that of 1963-64. Rice production at 38.7

million tonnes was also an all-time high.* But, true to the seesaw nature of our agricultural fortunes, the two years that followed were the years of droughts and anxiety. The monsoons failed all over India and the production of foodgrains, largely dependent on the rains, suffered a sharp decline to record the all-time low of 72.3 million tonnes in 1965-66 against an estimated Plan target of 101.6 million tonnes.

Meeting the crisis. To tide over the crisis, massive imports of foodgrains were effected. The total quantity of foodgrains imported during 1965-66 amounted to 7.46 million tonnes valued at Rs. 290.32 crores, as against 6.27 and 4.56 million tonnes during the earlier two years. Wheat and rice were imported from the USA under the PL 480 Agreement as well as on commercial basis. Commercial purchases of rice were made from Burma, Pakistan, Cambodia, Thailand and UAR. Food aids and gifts were received from Canada and Australia. Internal procurement in surplus States was stepped up. More States were provided with foodgrains from the Central reserves. To curtail consumption and hoarding, distribution through fair-price shops was organised. Rationing was introduced in urban areas of the country. An organisation, named as the Food Corporation of India, was established to undertake purchase, storage, movement and distribution of foodgrains in the Southern States.

Agricultural development was stepped up and new programmes were oriented. The Third Plan expenditure of Rs. 1103 crores on agricultural development was increased to Rs. 2410 crores (and later to Rs. 3816 crores) in the Fourth Plan. The annual Plans that followed (due to the postponement of the Fourth Plan) laid considerable stress, financial and otherwise, on agricultural programmes. Numerous schemes relating to minor irrigation, soil conservation, and dry farming, power, transport and communications and rural works were taken in hand and executed with reasonable success. The accent shifted on the minor schemes capable of yielding quick results rather than the grandiose projects of gigantic investment taking years to build and to produce results. Supply of manures and chemical fertilizers was increased and seed multiplication and distribution were given priority. Conditions were created for the provision of improved agricultural implements and adoption of scientific agricultural practices. Fortunately during 1967, monsoon were good and on time. The cumulative effect of all these circumstances was a bumper crop.

The agricultural breakthrough. The year 1967-68 witnessed a new upsurge in the agricultural field. A revolution, characterized by new agricultural strategy and the farmer's responsiveness to improved farming techniques, swept the countryside. The final estimate of foodgrains production was put at 95.6 million tonnes though the officials insisted that it had touched the 100 million-tonne mark. Other increases in farm production were in sugarcane (26%), oilseeds (11%), cotton (11.7%) and jute (9%). The Punjabi farmer, with his strategy of intensive cultivation, led this massive effort towards self-reliance. Ludhiana District (Punjab) with average production of 36 maunds per acre became the top

world producer of wheat per acre. The following programmes have been designed to further improve agricultural production and to meet any future crisis :—

(i) Subject to normal monsoons, the 94 million tonne production in 1968-69 increased to 100 million tonnes in 1969-70. Thereafter, a growth rate of 5 per cent (compound) would be feasible.

(ii) A record procurement of 7 million tonnes of foodgrains will be achieved for release during lean years.

(iii) 21 million acres of new land will be brought under high-yielding varieties every year touching the ultimate target of 60-70 million acres during the Fourth Plan. This alone will record an increase of at least 25 million tonnes in foodgrains.

(iv) Water and fertilizers would not be allowed to prove a bottleneck in future. The supply of the latter as well as those of pesticides will be substantially stepped up. Minor irrigation schemes will be undertaken.

(v) Huge PL 480 funds, accumulated in India, would be utilised for agricultural development. The newly created Agricultural Credit Corporation and commercial banks would advance funds to the needy farmers. The Central Government has set aside Rs. 600 crores for rural credit programme.

(vi) Atomic energy will be pressed into service to step up food output. Entry of the educated in the agricultural field will help utilization of various scientific techniques and inventions.

(vii) Progressive schemes like land reforms, distribution of surplus land to the landless and the Harijans, liberalization of institutional credit for modernization of agriculture, dry farming and soil conservation plans will be executed expeditiously.

We are in a position to draw heavily on the experience of Japanese agriculture which was in almost similar plight about 75 years ago. Even at present, the Japanese average holding in land is not larger than ours, their weather is almost as extreme as ours, yet the production there is many times that of our average production per acre. The Japanese put the land to the most intensive use and try to raise more crops than we do. In addition, they have no social inhibitions about raising and killing of animals for food. In the years to come, we shall have to utilise our community development schemes and extension services in a better way, organise our resources and apply to our land the industry, intelligence and science of the West. There only lies our salvation.

AGRICULTURAL PRODUCTION

Food Crops

Rice. It is the most important crop in India and covers about 30 per cent of the country's sown area. India is the second largest rice producing country in the world. It is grown in West Bengal, Tamil Nadu, Bihar, U.P., M.P., Orissa, Assam and Maharashtra.

Wheat. This is the most important crop in the world. It has been sown in India from time immemorial and is the staple food

of the people of Punjab and U.P. It is grown in October and harvested in March-April. Punjab, Haryana and U.P. are the chief wheat growing areas in India.

Barley It is a subsidiary food to wheat eaters and is grown in Rajasthan, U.P. and Bihar.

Millets (Jowar and Bajra) Jowar is mainly grown in Maharashtra, Rajasthan, Andhra Pradesh, M.P., Tamil Nadu and U.P. Bajra is extensively grown in Haryana, Rajasthan, Punjab, U.P., Maharashtra and Tamil Nadu.

Maize. It is grown in Bihar, U.P., Haryana, Rajasthan, Maharashtra and Gujarat.

Grams and Pulses Being the primary source of protein for the vegetarian, the pulses are an important diet of the Indian People. Though grown throughout the country, the important producing regions are Punjab, Haryana, Rajasthan, U.P., M.P., West Bengal, Maharashtra and Gujarat.

Cash Crops

Cotton It is the chief commercial crop of India and is extensively produced in Punjab, Maharashtra, M.P., U.P. and Tamil Nadu.

Jute. The partition gave all the jute producing areas to Pakistan. But India now produces sufficient jute to feed her jute mills. It is extensively grown in West Bengal, Bihar, Orissa and Assam are also growing jute at present, though in lesser quantities.

Tea. India is the biggest producer of tea in the world. It is India's main foreign exchange earner. India commands 40 per cent of the world trade in tea. It is extensively grown in Assam, West Bengal and Nilgiris. Tea is also grown on a smaller scale in Kulu and Kangra.

Coffee An important crop of South India, it is raised on the sunny slopes of the Western Ghats. Mysore, Kerala and Tamil Nadu are the chief coffee producing centres in India. Out of the total coffee cultivated area of about three lakh acres, 57 per cent falls in Mysore.

Tobacco Standing third in the world in the production of tobacco, India produces about 4 lakh tonnes of this crop every year. Andhra Pradesh is the chief tobacco producing States claiming about 40 per cent of the total produce. Other States where it is grown on a smaller scale are Tamil Nadu, Mysore, Orissa, Madhya Pradesh, Rajasthan and Punjab.

Oilseeds. India is the biggest producer of oilseeds, which are extensively grown in Punjab, U.P., Madhya Pradesh, Maharashtra, Gujarat, Andhra, Bihar and Orissa.

Rubber. It is obtained from the milky secretion (latex) of various plants but chiefly from the para rubber tree. It is grown in Kerala, Tamil Nadu and Mysore. (M.W., 1950)

Silk. Silk fibre is produced by the silkworm in making its cocoon. Two thirds of the total silk output is produced in Mysore. It is also produced in West Bengal, U.P., Punjab and Kashmir.

(M.W., 1956)

Sugarcane. India is an important producer of sugar in the world. Sugarcane is extensively grown in U. P. and Bihar and on a smaller scale in Punjab and some other States. Most of the sugar mills are in U. P.

Cocanut. An important source of oil, it is extensively grown in plantations on the West Coast of India, from Konkan to Kanya Kumari. It is also grown in Tamil Nadu (Tanjore Distt.), Andhra, Mysore, Orissa and West Bengal.

Wool. It is obtained from Himachal Pradesh, U. P. and Kashmir. Tamil Nadu and Rajasthan also produce some wool.

COMMUNITY DEVELOPMENT

Its Aims and Objects. Launched on 2 October, 1952, the Community Development programme aims at the individual and collective welfare of India's vast rural population. It has been described as a people's movement assisted by the Government in the nature of finances and technical know-how but executed entirely with the enthusiasm, initiative and drive of the rural masses themselves. It seeks to develop villages in a closely-knit, integrated community enjoying some basic amenities of modern life. The main objectives of the programme are to develop self-reliance in the individual and initiative in the village community. These may include provision of drinking water for villagers, minor irrigation schemes such as digging of wells and tanks for storage of water for use in the fields, opening of schools where the rural children can acquire the rudiments of learning, provision of paved streets and sanitary conditions, a dispensary to look after the health of the villagers, a nearby veterinary hospital to treat the sick cattle, construction of serviceable roads, provision of village industries to provide work to the villagers during the slack season and a club for entertainment as well as a meeting place to discuss their problems and sort out their difficulties.

Its Structure. The programme is implemented in units of blocks. A block comprises 100 villages with an area of 390 to 520 sq. Kilometres and a population between 60 and 70 thousands. The development is executed in three stages, the last stage being one when the block becomes the permanent unit of planning and development and an established channel for developmental expenditure. In January, 1958, the National Development Council approved the structure of democratic decentralisation and laid down guidelines to establish the Panchayati Raj. The set-up consists of a three tier structure of local self-governing bodies at the village, block and district levels. Specific powers and functions have been given to these bodies in regard to development and local administration.

First tier—the Village. The panchayat, elected by the villagers, the cooperative and the village schools are the basic institutions at the village level. The panchayats have been charged with the responsibility of implementing all developmental programmes in the area. The cooperative provides for the economic needs of the villagers and the school caters for the educational needs of children and adults. It is also a forum for cultural and recreational activity.

Second tier—the Block. The Block Samiti, charged with the developmental work at the Block level, includes elected Sarpanches (Presidents of the village panchayats) and a few co-opted persons representing women and scheduled classes. The Block Samiti has working under it some administrative personnel and experts such as the Block Development Officer, Extension Officers and experts on agriculture, co-operation and animal husbandry. For every ten villages, there is a Gram Sevak who acts as a multipurpose extension agent.

Third tier—the District (Zila Parishad) The statutory Zila Parishads have been made responsible for the implementation of development programmes in the district. The elected representatives of the people, including the Presidents of the Block Samitis and the M.Ps. and M.L.As of the district are the members of the Zila Parishad.

Other Organisations. In addition to the above three-tier organisation, there is an Extension Organisation at the block and village level which provides the Panchayat and the Block Samiti with the agricultural expertise and transmits back to the experts the problems of the farmers. There are also Block Development Committees, composed of the Panchayats, cooperative societies, farmers, social workers, women, M.Ps. and M.L.As representing the area, functioning in States where the three-tier system has not yet been introduced.

Its Coverage. The Community Development programme was initially started in 55 selected projects, each project covering an area of about 1,300 sq. kilometres, constituting 300 villages with a total population of about 2 lakhs. Later the programme was extended to cover the whole country. In January, 1969 there were 5,265 blocks covering 5.6 lakh villages or the entire rural population of about 43 crores. There are about 100 Gram Sevaks' Training Centres at which 74,948 Gram Sevaks have been trained. During the last few years, about 8,375 Gram Sevikas have also been trained at 44 Home Science Wings.

IRRIGATION IN INDIA

There are few areas in the country that receive adequate rainfall to meet the agricultural needs. Moreover, rainfall in India is not fairly distributed throughout the year. The need for artificial irrigation is, therefore, great. There are four chief means of irrigation, being practised in India, as follows.

Canals —Punjab, Haryana, Rajasthan, U. P., Madhya Pradesh and Tamil Nadu.

Tube Wells—Punjab, Haryana, Rajasthan, U. P.

Wells —Punjab, Haryana, U. P. and Bihar.

Tanks —Peninsular India (areas of Deccan Plateau).

Rivers to India's rescue. In the ancient times, our river basins were the cradles of civilisation. Earliest settlements grew up on the banks of these rivers. After thousands of years, the rivers are held as important as ever. Millions of dry acres are being transformed into smiling agricultural fields; millions more await the much needed water. New transmission lines are carrying cheap electricity,

produced with the help of these rivers, to thousands of villages and towns, to factories, to mines and even to the huts that house the nation's handicrafts. Some other rivers run out of their banks occasionally and bring suffering and pain to the people. They need to be harnessed.

The total annual flow of water in the 110 odd rivers of India is estimated at 1,356 million acre feet of which 450 million acre feet can be utilised for irrigation. But we have so far utilised hardly 36 per cent of this water. Efforts are, however, continually afoot to harness as much of water resources as possible. There are now few or almost no more possibilities of diverting the normal flow of rivers into irrigation canals. The future development of irrigation, therefore, increasingly depends on the storage of surplus river waters during the monsoon season for use in dry weather. Where flow irrigation is not possible, tanks and wells have been planned. Dams prevent floods. The dammed water is also used for the generation of electricity.

Multipurpose Projects

Multipurpose projects are those projects that serve more than one purpose such as irrigation, flood control, generation of electricity, soil conservation and afforestation, development of fisheries, supply of drinking water and development of recreational spots and sports. During the first three Five Year Plans, India had undertaken about 500 irrigation or multipurpose projects—both big and small—covering 40 million acres. Most of these projects have since been completed. Power generating capacity has during the same period quadrupled from 2.3 million kw in 1951 to 10 million kw in 1966. The gross area under irrigation during the period increased from 56 million acres to 88 million acres. In 1951, less than 4,000 villages were electrified but in 1967 the number had touched 61,000 and was likely to increase considerably during the Fourth Plan.

SOME IMPORTANT IRRIGATION AND POWER PROJECTS

[Note : For the sake of convenience, the projects have been arranged in alphabetical order.]

Beas Project (Punjab and Rajasthan). A joint venture of the Punjab and Rajasthan, it consists of two units, viz., (i) Beas-Sutlej link, and (ii) Beas dam at Pong, near Jullundur, in Punjab. Primarily intended for storing water for the Rajasthan Canal, the project will ensure extension of perennial irrigation to about 50 lakh acres in Punjab and Rajasthan. A power plant with an installed capacity of 6,36,000 kw will also be constructed. The project is being financed partly by the World Bank. A sum of Rs. 60 crores has already been spent on the project. *Total cost : Rs. 250 crores.*

Bhadra Reservoir Project (Mysore). This multipurpose project estimated to cost Rs. 32 crores, across the river Bhadra in Mysore State, will irrigate 2.4 lakh acres of land. It will have two power stations with a total installed capacity of 40,400 kw.

Bhakra Nangal Project (Punjab, Haryana and Rajasthan). The Rs. 175.60-crore Bhakra Nangal Project, India's biggest multipurpose river valley scheme, is the joint venture of Punjab, Haryana and

Rajasthan. It consists of a 226-metre (740 ft.) high Bhakra dam across the Sutlej, 29-metre (95 ft.) high Nangal dam, 64-kilometre long Nangal hydel channel, three power houses and about 4500 kms. of canals and distributaries.

The Bhakra Canal system commands a cultivable area of about 60 lakh acres. On full development, an area of 36 lakh acres is expected to be annually irrigated resulting in an increase in food-grains by about 10 lakh tons. An area of 36 lakh acres in Punjab and Rajasthan received irrigation during 1967-68. The three power houses at Bhakra, Ganguwal and Kotla have a combined installed capacity of 6.04 lakh kw. (I. V., 1965)

Chambal Project (Madhya Pradesh and Rajasthan). This Rs. 75-crore project, being jointly executed by Madhya Pradesh and Rajasthan will be completed in three phases. The first phase comprising the Gandhi Sagar dam, a 80,000 kw power station, Kotah barrage and canals, commanding an area of 11 lakh acres in Madhya Pradesh and Rajasthan, had been completed in 1960. Second stage of the project consisting of the Rana Pratap Sagar dam and a 90,000 kw power house below it, was completed in 1970. It provides irrigation facilities to 3 lakh acres of land. The third stage comprises the construction of the Jawahar Sagar (Kotah) dam and a 60,000 kw. power station. Both the works are under construction.

Damodar Valley Corporation (West Bengal and Bihar). Modelled on the lines of America's Tennessee Valley Authority (TVA), the Rs 53-crore project comprises four storage dams at Tilaiya, Konar, Maithon and Panchet Hill, a number of power houses including those at Bokaro, Durgapur and Chandrapura, with a total capacity of 9.8 lakh kw and an irrigation barrage at Durgapur with canals and distributaries.

The Tilaiya dam was completed in 1953, the Konar dam in 1955 and the Maithon dam in 1957. The Panchet Hill dam, a flood control scheme, was completed in 1959. The 692-metre long and 11.58 metre high barrage at Durgapur in West Bengal was opened in August, 1955 and handed over to West Bengal in 1964. The 1.5 lakh kw each Bokaro, Durgapur and Chandrapura thermal power stations were commissioned in 1953, 1964 and 1965 respectively. Two more units of 1.4 lakh kw each at Durgapur and Chandrapura were completed in 1968. These projects will help develop the area which is rich in minerals.

Farakka Barrage (West Bengal). With a view to saving the Calcutta port from gradual extinction and to adding to the water supply of Calcutta city, the following principal works are proposed to be constructed across Ganga at a cost of Rs. 110 crores :

- (i) A barrage across the Ganga at Farakka ;
- (ii) A barrage across the Bhagirathi at Jangipur ;
- (iii) A feeder canal, 42.6 km long, taking off near Ganga barrage and outfalling into the Bhagirathi.

With the above constructions, it will be possible to counteract the deteriorating effects of the tidal flow. In addition to the preservation of Calcutta port, the project will improve the city water

supply and the drainage of region and improve communications and inland navigation. While Pakistan has been vehemently protesting against the construction of this project by India, the Government of India have ruled out any possibility of this project harming the economy of East Pakistan in any way. (*I.A.S., 1961 ; I.N., 1965*)

Gandak Project (Bihar, Uttar Pradesh and Nepal). It is an inter-State and inter-country project which will benefit Bihar, Uttar Pradesh and Nepal. The project comprises the following components :—

(i) A 743-metre long barrage across the river Gandak at Valmikinagar in Bihar.

(ii) Main Western canal and Main Eastern canal to irrigate a total area of 36 lakh acres in Bihar, U.P. and Nepal.

(iii) A power house with an installed capacity of 15,000 kw to be subsequently handed over to Nepal as a gift.

The construction of the barrage and excavation of all the canals are in progress. Estimated to cost Rs. 141.71 crores, it will improve communications and provide numerous economic benefits to the people of Nepal and India.

Hirakud Dam Project (Orissa). Considered to be the world's longest dam, the Hirakud dam is 4,800 metres long and impounds 810 crore cubic metres of Mahanadi water. Stage I of the project (costing Rs. 67.82 crores) has been completed providing perennial irrigation to 6 lakh acres with Hirakud power house generating 1.23 lakh kw of power. The power is being supplied to various industrial and metallurgical plants at Hirakud, Rajgangpur and Rourkela, as also to towns like Puri, Sambalpur, Hirakud and Cuttack.

The Rs. 34.34-crore diversion weir at Mahanadi is also under construction to regulate Mahanadi waters and improve the existing canal system. It will irrigate 16 lakh acres of land in Cuttack and Puri districts, and will greatly increase the production of food-grains, cotton and sugarcane. (*S.O., S.C.R.A., 1963*)

Kosi Project (Bihar and Nepal). The three-unit Kosi scheme, estimated to cost Rs. 68.13 crores, consists of :—

Unit I—A barrage near Hanumantnagar in Nepal and the connected works;

Unit II—About 270-km long flood embankments and other protective works; and

Unit III—The Eastern Kosi Canal System.

The barrage and headworks were completed and were inaugurated by the King of Nepal in April, 1965. The Project on completion will irrigate large acreage in Nepal and Bihar, prevent 1100 sq. miles of area from flooding and provide 10,000 kw of power.

Koyna Project (Maharashtra)—The Rs. 88.33-crore Koyna project comprises the following three stages of works :—

(i) Construction of 63.5-metre high dam across river Koyna, a tunnel for the diversion of river waters and a power house with a total installed capacity of 2.4 lakh kw. *Cost of Construction—Rs. 40.73 crores.*

(ii) Enlarging the storage capacity of the reservoir and adding 4 more generating units of a total capacity of 3 lakh kw. *Cost of Construction- Rs. 15.71 crores.*

(iii) Construction of a gravity dam and an underground power house. They will be completed by 1970-71. *Cost Rs. 32 crores.*

Mahi Project (Rajasthan and Gujarat). This Rs. 30-crore inter-State project is designed to develop the Adivasi areas of Banswara and Durgapur districts in Rajasthan and some areas in Gujarat. In addition to the provision of irrigation facilities, the project envisages construction of two power houses of 125 mw capacity with plans to ultimately link the Mahi distribution system with Chambal grid.

Malaprabha Project (Mysore). The project envisages the construction of 134.5-metre long and 44.2-metre high masonry dam across the Malaprabha river, a tributary of Krishna, in Belgaum district of Mysore State. The right bank canal of the project will irrigate 3 lakh acres of land. The project is estimated to cost Rs. 20 crores.

Mayurakshi Project (West Bengal). Mainly an irrigation scheme, it also produces 4,000 kw of power, which is supplied to the Birbhum and Murshidabad districts in West Bengal. The construction of a diversion barrage at Tilpara was completed in 1951 and the 47.24-metre high and 640-metre long Canada dam was completed in 1955. The canals when completed will irrigate 6.25 lakh acres annually. The two generating sets of 2,000 kw each were commissioned in 1956 and 1957 respectively. *Total Cost Rs. 20 crores.*

Nagarjunasagar Project (Andhra Pradesh). The project comprises the construction of a 1450-metre long masonry dam on the Krishna river and a canal on each side of the river with a total length of about 400 km. They will irrigate 20 lakh acres of land. The dam and the canals are expected to be completed in 1970-71. *Total Cost Rs. 165.5 crores.*

Narmada River Valley Project (M. P., Maharashtra, Gujarat and Rajasthan). Narmada, the largest west-flowing river of India carries 38 million feet of water which, in fact, is very large. It has an irrigation potential of over 110 lakh acres of land and power potential of 2,000 mw. Such colossal water and power resources can be advantageously exploited for the overall development of large areas in M. P., Maharashtra, Gujarat and Rajasthan. The Narmada Water Resources Development Committee was formed under the chairmanship of Dr. A.N. Khosla to prepare plans for the development of these areas. The result was the formulation of Navagam Project, to be located in Gujarat State. However, due to differences among the participating states over the sharing of water as well as the location of the project, the work on the project has not started as yet.

Rajasthan Canal Project (Rajasthan). Estimated to cost Rs. 271 crores, the Rajasthan Canal will provide irrigation to about 35 lakh acres in Rajasthan. The canal taking off from the

Harike barrage across the river Sutlej, will comprise :—

(a) **Rajasthan Feeder** : 216 km long, of which the first 180 km lie in Punjab.

(b) **Rajasthan Canal** : 470 km long, lying entirely in Rajasthan.

The Rajasthan Canal will be initially fed by flow supplies from the Ravi and the Beas rivers but will be later supplemented by the stored waters of the proposed Pong dam. The first stage of the project comprising the Rajasthan Feeder and the 200 km of the Rajasthan Canal is now expected to be completed in 1971-72. The second stage will complete the remaining length together with its distribution system. To save water losses through seepage, the entire length of the canal and the feeder will be lined.

Ramganga River Project (Uttar Pradesh). A 125.6-metre high earth and rock fill dam and a 72.24-metre high saddle dam will be constructed across river Ramganga, a tributary of the Ganges, in Garhwal, U. P. The project will provide irrigation for 17 lakh acres of land in addition to generation of power. The scheme would be completed in the Fifth Plan period and will cost Rs. 95.60 crores. It is claimed to be the biggest earth dam in Asia.

Rihand Dam (U. P.) It envisages construction of a dam 91.5 metres high and 1000 metres long across river Rihand in the Mirzapur district of U. P. at a cost of Rs. 38 crores. Its power house generates 3 lakh kw of power, being supplied to Eastern and South Eastern parts of U. P. Power is being made available for cottage, medium and major industries and for irrigation wells.

Tawa Multipurpose Project (Madhya Pradesh). The Rs. 34.14-crore project envisages the construction of a 2092-metre long dam of earth-cum-masonry type with a reservoir across the Tawa river, a tributary of the Narmada river, in Hoshingabad district of Madhya Pradesh. Two canals, together 224 km in length, taking off from either flank, will provide irrigation to a total area of 8 lakh acres. Two power houses will also be constructed with a total installed capacity of 42,000 kw.

Tungabhadra Project (Andhra Pradesh and Mysore). The project comprises a 2,450-metre long and 49.30-metre high dam on the Tungabhadra river, three canals of a total length of 745 km. and three power houses. The dam was completed in July, 1956. A number of power generating units of a total capacity of 1.08 lakh kw. have been commissioned. The two canals on either side will irrigate nearly 10.5 lakh acres in Andhra Pradesh and Mysore. The low level canal and its major distributaries and the distribution system have been completed. Work on the other canals is in progress.

INDUSTRY

Industrial Statistics. According to the Annual Survey of Industries, 1965, registered factories in India numbered 13,459 employing 50 or more workers with the aid of power and 100 or more workers without the aid of power with the total productive capital of Rs 6,300 crores. The number of persons employed was 40 lakh workers and 5 lakh other than workers. The salaries, wages and

benefits of the employees totalled Rs. 941 crores of which workers accounted for Rs. 700 crores. Other studies that were conducted in connection with the finances of Indian joint stock companies indicated that in November, 1965, the total number of joint stock companies in India was 27,144 with a total paid-up capital of Rs. 2,708.6 crores. In addition, there were 1,168 companies limited by guarantee and associations not for profit.

Industrial Policy. The Industrial Policy announcement of 1948 envisaged a mixed economy for India. The Policy was revised in April, 1956 to include the national objective of a socialist pattern of society. The country's industries were divided in Schedules A and B. Schedule A industries* were made the absolute responsibility of the State and included factories manufacturing arms and ammunition, defence equipment, atomic energy, iron and steel, minerals including oil, aircraft, air transport, railway transport, ship-building, telephones, telegraph and wireless apparatus and generation and distribution of electricity.

Schedule B industries would be progressively State-owned, but private enterprise will be expected to supplement the efforts of the State in these fields. These industries included machine tools, chemicals, fertilisers, synthetic rubber and road transport. Future development of industries, not included in the two Schedules, will be left to the private enterprise. The State has, however, the right to undertake industrial production.

Regulation of Industry. Under the Industries (Development and Regulation) Act, 1951, all new and existing undertakings (including their expansion) are required to be licensed. In the case of mismanagement, the State is empowered to take over their management or control. The State also provides financial assistance for the establishment of those important industries for which private capital is not forthcoming.

National Productivity Council (N. P. C.) An autonomous organisation known as the National Productivity Council (N. P. C.) with representatives of the Government, employers, labour and others, was formed in February, 1958. This body inculcates productivity consciousness in the country and provides the latest techniques of increasing productivity in industry. The N. P. C. observed 1966 as India Productivity Year (I. P. Y.) to increase national awareness and importance of productivity as the key to development.

Indian Standards Institution (I. S. I.). It functions under the Union Ministry of Industrial Development and Company Affairs and lays down standards for commodities, materials, practices and processes. It also accords I. S. I. Certification Marks to such manufactures as conform to its manufacturing standards. It also collaborates with several international standards organisations.

Industrial Finance Corporation. Constituted under an Act of Parliament in July, 1948, the Corporation gives assistance and

*Investment in public sector enterprises is Rs. 3,500 crores. Another Rs. 7,000 crores is invested in Railways, Posts and Telegraphs, ports etc. etc.

loans to industrial concerns as also subscribes to the shares of industrial undertakings. Up to the end of March, 1968, the Corporation had rendered assistance to the industries amounting to Rs. 300.5 crores. 18 State Finance Corporations have also been set up which assist medium and small scale industries which are not served by the Industrial Finance Corporation.

Industrial Development Bank of India (I.D.B.I.). Established in July, 1954, its function is to coordinate the operations of other financial institutions and also to provide direct financial assistance to industrial units. It conducts market and investment researches and provides necessary guidance to the industry. It is wholly-owned subsidiary of the Reserve Bank of India and has an authorised capital of Rs. 50 crores, which can be raised to Rs. 100 crores.

The Unit Trust. Constituted in February, 1964 with an initial capital of Rs. 5 crores (contributed by the Reserve Bank, the State Bank and the L.I.C.), the Trust aims at encouraging savings and provides facilities of investment to the investors in units of Rs. 10 in shares and other securities.

National Industrial Development Corporation. Formed in 1954, the Corporation provides special loans to the cotton textiles and jute industries for their modernisation and rehabilitation. It also provides assistance for the expansion of machine tool units.

SOME IMPORTANT INDUSTRIES

Cotton Textile Industry. More than one hundred years old, it is one of the most important industries of India, employing over a million people. It is also a major exporting industry. While the Swadeshi movement was a boon for the industry, its progress up to World War II was very slow. Before the War there were about 388 cotton mills in India with about one crore spindles and two lakh looms. According to a survey made recently this number had increased to 635 (346 spinning and 289 composite). Mill cloth production in 1967 was 410 crore metres and after the end of the Fourth Five-Year Plan it is likely to increase to 548.6 crore metres.

Jute Industry. The Jute Industry is also about 100 years old. It has 112 mills with a total number of 72,281 looms, representing about 53 per cent of the total loomage of the world. It produces goods worth Rs. 250 crores per annum and employs about 2.35 lakh workers. In 1967, its output was 12 lakh tonnes of which 7.34 lakh tonnes worth Rs. 200 crores was exported. The partition of India gave away all the jute growing areas to Pakistan but due to the efforts of the government and the industry, India now produces sufficient jute to feed its mills. The industry is one of the premier foreign exchange earners for India.

Sugar Industry. One of the biggest industries in the world, it is second biggest in India, ranking next only to Textile Industry. There are about 175 sugar mills in India. Sugar production was 36 lakh tonnes in 1965-66 but it fell to 22.3 lakh tonnes in 1967-68. It was likely to be 33.5 lakh tonnes in 1969-70. By the end of the Fourth Five-Year Plan, the production will touch the mark of

45 lakh tonnes. If this target is achieved, India will be able to export about 15 lakh tonnes of sugar after meeting the internal demand of about 30 lakh tonnes.

Cement Industry. While cement was first manufactured in India in 1904, it was only in 1912-13 that its manufacture started on a large scale. There are at present 37 cement factories (compared with 23 at the time of partition) which produced about 10.8 million tonnes of cement in 1965-66. The installed capacity of cement is likely to reach 20 million tonnes by the end of Fourth Five-Year Plan.

Iron and Steel Industry. Though some attempts were made during early nineteenth century to produce steel in India, no success could be achieved. The real beginning was made only in 1874 with the establishment of Barakar Iron Works on the Jharia coalfields. The Tata Iron and Steel Company was installed in 1907 and it started production of pig iron in 1911 and steel in 1913. Two other companies started producing steel later.

The Government of India has adopted a two-fold policy to promote the production of steel. Firstly, it is helping the existing units to expand their potential and secondly it has installed three new steel mills with foreign collaboration while the work on the fourth plant has already started. Total investment in the public sector plants amounts to Rs. 1081 crores. The production of steel ingots increased from 3.4 million tonnes in 1960-61 to 6.2 million tonnes in 1965-66, but fell to 4.3 million tonnes in 1967-68. This has been attributed to continued recessionary trends and serious labour troubles during the period. The production of steel after the Fourth Plan will increase to 11.7 million tonnes* in 1973-74. The three new steel plants installed in the public sector are as follows :—

Rourkela Steel Plant (Orissa) was installed in 1960-61 with German collaboration. Its production in 1965 was 1.07 million tonnes of iron and 1.08 million tonnes of steel ingots. The annual capacity of the plant increased during 1967 to 1.8 million tonnes of which was rolled 1.2 million tonnes of finished steel. Its expansion to 2.5 to 3.5 million tonnes is also under consideration.

Bhilai Steel Plant (M.P.) was built with Russian aid with an initial capacity of 1 million tonnes. Its production in 1965 amounted to 1.49 and 1.27 million tonnes of pig iron and steel ingots respectively. The annual capacity of the plant increased to 2.5 million tonnes during 1966-67. There are also plans to expand the plant with the installation of more blast furnaces to sustain a production of 4 million tonnes of steel.

Durgapur Steel Plant (W. Bengal) was built in 1962 with British collaboration with an annual capacity to produce 1.7 million tonnes of steel. Its production in 1969 fell to 6 million tonnes mainly due to mounting labour troubles. During the

*According to Prime Minister, Mrs. Indira Gandhi, three new plants are to be set up at Vishakhapatnam, Salem and Hospet. (The Salem plant will produce special steel.) A sum of Rs. 110 crores has been allocated for this purpose in the Fourth Plan.

Fourth Plan period, the annual capacity of the plant is likely to be expanded to 3.4 million tonnes of steel.

(S.C.R.A., *Marine Engg.*, 1962)

Bokaro Steel Plant (Bihar). This steel plant is being set up at Bokaro with technical and financial collaboration of U.S.S.R. A company named the Bokaro Steel Ltd. has already been formed with an initial capital of Rs. 100 crores. The scheme envisages construction of a 4 million-tonne capacity plant capable to expand to 5.5 million tonnes later. The first stage of the plant was completed by the end of 1969. The total cost of the project will be Rs. 670 crores.

The management of all the three plants already installed and the fourth one at the planning stage vests in the State-owned* Hindustan Steel Ltd. (HSL). HSL's exports during 1967-68 amounted to Rs. 309 million as against Rs. 93 million in 1966-67. Pig iron is in great demand abroad.

Other steel plants in the private sector are the *Tata Iron and Steel Co. (TISCO)* (Jamshedpur, Bihar) with an annual expanded capacity of 2 million tonnes of steel ingots, the *Indian Iron and Steel Co. (IISCO)* (Burnpur, West Bengal) with an expanded capacity of 1 million tonnes of steel and the *Mysore Iron and Steel Ltd.* (Bhadravati, Mysore) with an annual capacity of about 0.1 million tonnes of alloy and special steel production, reached in 1967-68.

Automobile Industry. The production of motor cars, scooters and motor cycles had registered a 33 per cent increase during 1968 and 1969. In 1967, 33,339 cars were produced as against 24,700 in 1965. Production in 1969 was 40,000 cars. During the same period, scooter production was higher by 11 per cent. In 1969, the production was about 50,000 scooters. A new unit capable of manufacturing one lakh scooters annually has been included in the Fifth Plan in the public sector. The annual production of tractors in the 20 HP. range or below is 30,000. As the production of agricultural tractors has been delicensed, production is likely to pick up further.

Aircraft Industry. Till recently, the Hindustan Aircraft Ltd., Bangalore and the Aircraft Manufacturing Depot, Kanpur were the two aircraft manufacturing units in India. Recently with the formation of Hindustan Aeronautics, the above two units have come under the wings of the new organisation, which has been started mainly for the manufacture of MIG-21 aircraft. Three factories at Nasik (airframe), Koraput (engine) and Hyderabad (electronics) have been established where the work is already in progress. By 1968-69 most of the parts and components of the aircraft were manufactured in India.

While Gnats are being built in HAL, Bangalore, the work on MARUT (Mark I), which is one of the major tasks of HAL, is already in progress. The production of the Alouette helicopter has

*The losses incurred by the three public sector steel plants up to March, 1967, were officially put at £33-33 million. According to some political sources, HSL is being 40 crores annually.

also commenced. Other aircraft being produced or under various stages of production at the HAL, Bangalore are "Krishaks", AOP aircraft and "KIRAN"—all for the Indian Air Force. Production of supersonic Mig-21 (under licence from USSR) has crossed the 100 mark. By 1973-74 an improved version of the aircraft will go into production. Manufacture of helicopters, entirely engineered and designed by Indian expertise, is also being planned. Production has also commenced of missiles for the Mig-21 aircraft.

The Kanpur division of the HAL manufactured 3 more HS-748 aircraft which were approved by the Indian Airlines Corporation. An order for 15 such aircraft has already been placed with the HAL by the I.A.C. The Hindustan Aeronautics is also developing a powerful aircraft to replace Ht 24, the low-altitude ground attacker. A small aircraft, named Revathi, has been developed at Technical Centre, New Delhi. It can carry four passengers. Its commercial potentialities are being studied.

Oil Industry. With the ever increasing demand for petroleum (its demand increased by five times in 1960 to that in 1948), country's anxiety to produce her own oil became evident. At the start of First Plan, India imported practically all her supplies. The only unit that produced oil was at Digboi which could meet hardly 5 per cent of the country's demand. Under the First Plan, three refineries were established—one by Standard Vacuum (now ESSO) in 1954, one by Burmah Shell in 1955, located in Trombay, near Bombay, and the third by Caltex at Vishakhapatnam in 1957. With the installation of these refineries the total refining capacity increased to 3.48 million tons.

The Oil and Natural Gas Commission was constituted in 1956 to intensify exploration and production of oil within the country. The Commission intensified exploration work being done in Assam, Gujarat, U.P., Bihar and Punjab. As a result of these activities, the Commission discovered oil in the Cambay basin in 1958. Oil was also struck in Rudrasagar and Lakwa near Sibsagar in Assam. Trial production had started there in 1966. The Commission, with a view to exploring oil in the off-shore areas around the Indian coast, has already conducted seismic surveys in the off-shore areas of Coromandal coast and the Gulfs of Cambay and Kutch. As a result of these surveys, the Commission will start off-shore oil exploration in the Gulf of Cambay.

An organisation known as the *Indian Oil Corporation*, a wholly government-owned company, was formed in 1964 to market and distribute petroleum products in the country. The *Oil India Ltd. (OIL)* was formed in 1959 with Government of India and Burmah Shell owning equal number of shares. The company has started exploration and production of petroleum and crude oil in the Naharkatiya, Hugrija and Mora areas in Assam. The crude is brought through pipelines to Noonmati and Barauni refineries.

In addition to the three refineries mentioned earlier, the following public sector refineries are either functioning or are under installation :—

1. Noonmati, near Gauhati (commissioned in January, 1962).

2. Barauni, in collaboration with U.S.S.R. (Inaugurated in January, 1965).

3. Koyali, near Baroda, Gujarat, with U.S.S.R. aid. (Started production in 1966).

4. Near Cochin, in collaboration with Phillips Petroleum Company of U.S.A. (Started working in 1966).

5. Madras, installed in collaboration with American International Oil Company and National Iranian Oil Company. (Started production in June, 1969).

6. Haldia (to be completed in 1972).

7. A new refinery in the North-West region is proposed to be set up.

Heavy Engineering Corporation (Ranchi). Established at Ranchi on 31 December, 1959, at a cost of Rs. 244 crores it was designed to manufacture heavy capital equipment. The project had suffered losses of Rs. 10 crores up to March, 1967. It is feared that, unless the downward trend is arrested, the Corporation will be incurring annual losses of over Rs. 35 crores from 1970-71 on account of fixed charges alone.

State Trading Corporation. Started in 1956, the STC has made notable strides in internal and external trade. Out of its total turnover of Rs. 160 crores in 1967-68, the export trade represented about Rs. 35 crores. It has done a lot to diversify India's export trade, expand the present markets and explore new ones and undertake price support and buffer stock operations in certain countries. Since 1956, it has earned foreign exchange worth Rs. 127 crores. The main items of export are railway wagons, leather goods, wigs, engineering goods and chemicals. The total turnover during 1968-69 was about Rs. 200 crores.

Hindustan Machine Tools. Incorporated in February, 1953, the Hindustan Machine Tools (HMT) was established to manufacture machine tools, in collaboration with some Swiss firms. The first unit went into production in 1955. The second factory, with Japanese collaboration, started producing watches in 1961. The other manufacturing units in Haryana, Kerala and Andhra were established later. HMT now produces 50 per cent of the machine tools manufactured in India.

Small Scale Industry. According to an official survey, the small scale enterprises increased from 42,000 in 1963 to 1,50,000 in 1970. These units provide employment to about 2 million workers which is equivalent to 40 per cent of the total factory employment. The small scale enterprises are mainly concentrated in the 40 odd industrial estates. An outlay of Rs. 298.45 crores is being proposed for the development of small scale industries during the Fourth Five-Year Plan. 52 items are already reserved for exclusive production by the small industry. The government proposes to add 22 more items to the list. The production in the industry will then increase from Rs. 3,100 crores worth of goods in 1968-69 to Rs. 5,000 crores by the end of the Fourth Plan.

IMPORTANT MANUFACTURING INDUSTRIES

Aircraft Industry. Bangalore, Kanpur, Nasik, Hyderabad and Koraput.

Aluminium Industry. Alwaye (Kerala), Asansol (West Bengal), Katni (M.P.) and Bihar.

Antibiotics. Pimpri, Delhi and Rishikesh.

Atomic Power Stations. Tarapore (Bombay), Rana Pratap Sagar (Rajasthan), Kalpakkham (Tamil Nadu).

Automobile Industry. Bombay, Calcutta, Madras, Burnpur and Jamshedpur.

Blankets. Amritsar, Agra, Bangalore, Mirzapur and Kanpur.

Cement Industry. Lakheri (Rajasthan), Katni (M.P.), Dalmanagar (Bihar), Surajpur (Haryana), Churk (U.P.) and Kistna (Andhra).

Chemical Industry. Bombay, Calcutta, Delhi, Kanpur, Amritsar, Madras and Bangalore.

Cotton Textile Industry. Gujarat, Maharashtra, Tamil Nadu, West Bengal, U.P., Delhi, Mysore, Kerala and Madhya Pradesh.

Fertilisers. Nangal (Punjab), Sindri (Bihar), Neyveli (Tamil Nadu), Alwaye (Kerala), Vishakhapatnam (Andhra), Trombay (Maharashtra), Namrup (Assam), Rourkela (Orissa), Panki (Kanpur, U.P.). (*Marine Engg.*, 1962)

Glass Industry. Ferozabad (U.P.), Bombay, West Bengal, Punjab (Amritsar), Bihar, M.P. and Tamil Nadu.

Heavy Electricals. Bhopal, Hyderabad, Hardwar, Tiruvelur (Tamil Nadu).

Heavy Vehicles and Tanks. Avadi (Tamil Nadu).

Iron and Steel. Jamshedpur (Bihar), Hirapur and Burnpur (West Bengal), Bhadravati (Mysore), Bhilai (M.P.), Rourkela (Orissa), Durgapur (West Bengal) and Bokaro (Bihar).

Jute Industry. West Bengal.

Locomotive Industry. Chittaranjan (West Bengal), Jamshedpur (Bihar), and Varanasi (U.P.).

Machine Tools. Bangalore (Mysore), Pinjor (Haryana), Kalamassery (Kerala), Hyderabad (Andhra Pradesh). (*Asst. Gde.*, 1964)

Match Industry. Calcutta, Madras, Bareilly (U.P.).

Newspaper Industry. Napanagar (Madhya Pradesh).

Oil Industry. Trombay, Vishakhapatnam and Digboi, Noonmati (Assam), Barauni (Bihar), Koyali (Gujarat), Cochin, Madras and Haldia.

Paper Industry. Calcutta, Lucknow, Bombay, Poona and Saharanpur.

Shipbuilding Industry. Vishakhapatnam (Andhra Pradesh).

Silk Industry. Mysore, Murshidabad (West Bengal) and Srinagar (Jammu and Kashmir).

Sugar Industry. Bareilly, Gorakhpur, Kanpur, Lucknow (U.P.), Bhagulpur, Champaran, Dalmianagar and Muzaffarpur (Bihar). Sugar is also produced on a smaller scale in Punjab and Tamil Nadu.

Shawls. Kashmir, Kulu (Himachal Pradesh).

Woollen Industry. Kanpur, Dhariwal (Punjab), Bombay.

TRANSPORT

Railways

Railway Statistics. The first twenty-mile railway line between Bombay and Kalyan was inaugurated on 16 April, 1853. With a route mileage of over 36,500, the Indian railway network is the largest in Asia and second largest in the world. 4,000 miles of track has already been electrified. The railways have an investment of over Rs. 3,500 crores and provide employment to over 13 lakh persons. The railways have nearly 12,000 locomotives, 32,000 coaching vehicles and about 3,60,000 wagons. They carry about 60 lakh passengers and over 5 lakh tonnes of freight every day.

Railway Administration. Barring a small mileage of narrow-gauge feeder lines, which is in private hands, the railways are owned and run by the Central Government. The Railway Board, in which the overall administration and control of the railways vest, was constituted in 1905. For economic and efficient administration, the railways have been grouped into the following 9 zones :—

| <i>Zone</i> | <i>Date of Creation</i> | <i>Headquarters</i> |
|---------------|-------------------------|---------------------|
| Southern | 14 April, 1951 | Madras |
| Central | 5 November, 1951 | Bombay |
| Western | 5 November, 1951 | Bombay |
| Northern | 14 April, 1952 | Delhi |
| North Eastern | 14 April, 1952 | Gorakhpur |
| Eastern | 1 August, 1955 | Calcutta |
| South Eastern | 1 August, 1955 | Calcutta |
| North-East | | |
| Frontier | 15 January, 1958 | Gauhati |
| South Central | 2 October, 1966 | Secunderabad |

Railway Finances. In 1924, the railway finances were separated from the general finances but railways were required to make fixed contributions to the general finances every year. The extent of contribution is periodically reviewed. The railways also pay an additional sum of Rs. 12.5 crores annually to the general exchequer, for transfer to the States, in lieu of passenger tax merged with fares with effect from April, 1961.

Development Programmes. A sum of Rs. 1,686 crores was spent on railway development during the Third Five-Year Plan period. This was Rs. 360 crores in excess of the Plan provisions. The increase in traffic was, however, 2.7 million tonnes as against the stipulated 17 million tonnes. Over the first three Five-Year Plans period, the railway goods traffic had increased by 165 per cent. The Fourth Plan outlay for railways is Rs. 1,525 crores. The funds would be contributed by the general revenues (Rs. 585 crores), depreciation reserve (Rs. 525 crores) and resource mobilization (Rs. 415 crores).

Roads

Under the Government of India Act of 1919, the administration of roads, except those considered vital from the viewpoint of country's defence, was transferred to the States. As a consequence, expansion and development of road facilities continued to deteriorate till 1947 when the Central Government assumed responsibility of maintaining some selected roads that were named National Highways. Under the National Highways Act of 1956 the National Highways were statutorily taken over by the Central Government. The total mileage of the 39 National Highways is nearly 16 000. In addition, there are State Highways, district and village roads, maintenance of which is the State responsibility.

Road Development Road mileage has increased from 2.36 lakh in 1960-61 to 3.25 lakh in 1968-69. Consequently goods traffic carried by road has considerably increased. An ambitious 20-year road development programme has been initiated by the Government. A sum of Rs 1,430 crores is proposed to be spent on the construction of rural roads. The plan envisages development of 2.8 lakh miles of village roads and 1.8 lakh miles of district roads. Every village in the developed area is proposed to be brought within four miles of a metalled road and the one in the under-developed area within 12 miles. The government is reported to be considering to divert a major portion of revenue of Rs 200 crores, received from the imposition of tax on diesel oil for road development programmes. During the Fourth Plan the sum of Rs 900 crores will be spent for road development.

Civil Aviation

Operation of air transport has been entrusted to two autonomous public undertakings (running on commercial lines) e.g. the Indian Airlines and the Air India. Indian Airlines conduct air transport operations in India as also to Afghanistan, Ceylon, Nepal and Burma. It operates more than 100 flights per day. The Air India is an all-jet airlines providing air services to important world towns. It has ten modern jet lines and maintains 33 online and 63 offline sales offices covering five continents. In addition, there are seven non-scheduled air transport companies in India.

India has 85 civil aerodromes—4 international airports e.g. Delhi, Calcutta, Madras and Bombay, 7 major, 44 intermediate and 30 minor aerodromes. There are 24 flying clubs and 15 gliding clubs in India.

Tourism. A new organization known as the India Tourism Development Corporation (ITDC) has been formed by merging the Transport Corporation, the Hotel Corporation and the India Tourism Corporation. The new Corporation has, in an integrated effort at the promotion of tourism, decided to :

- (a) build hotels at Srinagar, Bangalore and many other places of tourist importance,
- (b) construct motels (tourist bungalows) at tourist resorts where the modern type of hotels do not exist, .

(c) provide fleets of air-conditioned buses and taxis at Delhi, Bombay and other cities for conducting tours of such tourist resorts as Agra and Ajanta ;

(d) provision of duty-free shops and good restaurants at the airports.

Mass Communication

Broadcasting. Regular broadcasting was introduced in India in 1927 by a private concern named the Indian Broadcasting Company. In June, 1935 All India Radio was established as an adjunct of Department of Industries and Labour of the Government of India. Shortly before partition, India had nine broadcasting stations, three of which fell to Pakistan's share. The stations in independent India were those of Delhi, Bombay, Calcutta, Madras, Lucknow and Tiruchirapalli. By 1970, the number of broadcasting stations had increased to 37. The service operates in all the Indian languages mentioned in the Constitution. In the external services, programmes are broadcast in over 21 languages, including 6 Indian languages. Television service started in 1959 and commercial broadcasting in November, 1967.

Press. *Bengal Gazette*, started in 1780 by an Englishman J.A. Hickey, was the first journalistic venture in India followed by *John Bull in the East* in 1821. Gujarati daily *Bombay Samachar* appeared in 1822 and then appeared a number of dailies and periodicals in English and vernaculars. According to the figures available, there were 636 dailies with a total circulation of 71.36 lakhs in 1968—182 in Hindi, 88 in Urdu, 68 in English and 298 in other languages. There were over 9,000 periodicals. In 1968, the dailies and periodicals had a joint readership of 2.35 crores. There are 9 Indian news and feature agencies including the Press Trust of India. A statutory 25-member body known as the *Press Council of India* was set up in 1966 to "preserve the liberty of the press and maintain and improve the standards of newspapers in India". Of the newspaper associations, the *All India Newspaper Editors' Conference* represents the editors of the Indian newspapers and periodicals and *Indian and Eastern Newspaper Society* is the representative body of the newspapers.

Some of the important newspapers along with centres of their publication are : *The Indian Express* (Delhi, Bombay, Madras, Madurai, Vijayawada, Bangalore, Ahmedabad), *The Times of India* (Bombay, Delhi), *The Statesman* (Calcutta, Delhi), *The Hindustan Times* (Delhi), *Amrit Bazar Patrika* (Calcutta), *The Hindu* (Madras)—all English ; *Nav Bharat Times* (Delhi, Bombay) and *Hindustan* (Delhi)—Hindi; *Ananda Bazar Patrika* (Calcutta), *Jugantar* (Calcutta) and *Basumati* (Calcutta)—Bengali ; *Malayala Manorama* (Kottayam, Calicut), *Matrubhumi* (Calicut, Ernakulam)—Malayalam; *Lokasatta* (Bombay)—Marathi; *Thanti* (Madras), *Dinamani* (Madras, Madurai)—Tamil ; *Jathedar* (Delhi)—Punjabi.

CHAPTER 21 ·

POLITICAL SET-UP

What is a Party ?

A political party is an organised group of citizens who profess to share the same political views and, who, by acting as a political unit, try to control the government. One of the most notable developments of modern democratic governments is, therefore, the emergence of political parties. They are essential to democracy as political parties with differing policies and programmes have no place under despotism. Parliamentary government on the other hand, is essentially a party government. Behind party is the idea that union is strength. So universal have the parties become in the present times that "without them there can be no unified statement of principles" nor an "orderly evolution of policy."

Opinions differ about the origin of the parties. Some hold that they are born of the natural contrast between those who cling to the old and those who embrace the new. Others opine that political parties arise from the pugnacious instinct of men. According to Laski, "there is a conflict of wills in society and that conflict is decided by the decision of the intermediate mass which is not firmly convinced of the truth of any general cause. To attract its support, it is necessary to advertise one's views. Parties are the natural method of effecting that end." The parties are, therefore, useful for the following reasons :--

(i) Without political parties there could be no means available to us of enlisting popular opinion on various national and international issues.

(ii) Parties are the most solid obstacle against the danger of absolutism.

(iii) Modern government being a complex phenomenon cannot be run except by an organised body, with skill and necessary equipment to understand its implications.

(iv) Political parties are based on the people's welfare and they stand or fall on that principle.

(v) Alternative to political parties is despotism or confusion. A party system prevents emergence of either of these.

(vi) Party government is the result of practical experience which shows that fewer and better organised the parties, the more effectively the government functions.

Growth of Indian Political Parties

Greek States were the earliest democracies in the world wherein people directly or indirectly decided their own affairs. It was, however, through the church that the modern representative system of government was evolved wherein the people, through their representatives, are the ultimate authority. The concept of democratic government is comparatively new to India. A cradle of ancient cultures and civilizations, she had nevertheless an exceptionally long spell of absolutist monarchic rule. Some kind of a

panchayat system did exist at the lowest level during the medieval period but it had no sanction in law, nor did it ever assume the role of a mass movement. It was only with the coming in of the British that the western concepts of liberty and democracy trickled down to the Indian people. As the British rule became oppressive, Indian reaction turned stiffer and organised. The history of the growth and development of political organisation in India is thus inalienably connected with the history of Indian people's struggle for freedom.

The reactionary attitude of the British Government during the latter half of the 19th century made the educated Indians realize that the time for organizing their political life had arrived. Surendra Nath Bannerjee, a dismissed I.C.S. officer, formed the "Indian Association" in 1876, which proved to be the precursor of Indian National Congress. The Indian National Congress was formed in 1885 by an Englishman, Mr. A.O. Hume, a retired I.C.S. officer. The Congress held its first session in Bombay in December, 1885. To start with, the party was not anti-British and was profuse in its expression of loyalty towards the British Raj. However, it was campaigning ceaselessly for constitutional and parliamentary reforms, e.g., the abolition of the Indian Council, expansion of central and provincial legislatures, separation of the executive and judiciary, recruitment of more Indians in the I.C.S. and reduction in the military expenditure. Afterwards, this criticism became sharper and assumed the role of a strong organised movement against the government. Ultimately, the country was freed in 1947.

MAJOR POLITICAL PARTIES

The Indian National Congress

Formed in 1885, it spearheaded the freedom struggle for full 62 years after which the country attained independence in 1947. It saw many vicissitudes during its pre-independence existence. Its destinies were guided by such men as Tilak, Gokhale, Dadabhai Naoroji, Mahatma Gandhi, Nehru and many other political luminaries. After years of struggle for a dominion status within the British Empire, the Congress demanded complete freedom in 1929. The party fought the elections under the Constitution of 1935 and formed its Ministries in eight of the provinces. These Ministries, however, resigned in 1940 when the British Government failed to take them into confidence with regard to its war aims.

After independence, it formed the first national government. The new Constitution was promulgated in 1950. The four general elections that the country has had so far have returned the Congress to power at the Centre and in most of the States.

Organisation.* The Party consists of : (a) The All India Congress Committee ; (b) The Working Committee ; (c) Pradesh

*The party stands divided into two organisations, one led by Mr. Jagjivan Ram and consisting of the leftists and the other led by Mr. S. Nijalingappa and backed by the so called "rightists". The Parliamentary wings of the parties are led respectively by Mrs. Indira Gandhi and Mr. Morarji Desai.

Congress Committees ; (d) District Congress Committees ; (e) Mandal Congress Committees ; and (f) Committees below the Mandal Congress Committees to be determined by the Pradesh Congress Committee concerned.

The Party exists in all the States except Nagaland and in most of the centrally administered areas. The Congress has three categories of members, e.g., the Primary Members, the Active Members and the Associate Members. According to the Party's constitution, any person of the age of 18 years or more, who contributes to the ideology of the organisation, can, on payment of an annual subscription, become a primary member of the party. A minimum of two years' consecutive active membership entitles a person to be an active member provided he pays an annual subscription and fulfils certain other conditions including wearing of Khadi and non-observance of untouchability. The associate members can take part in the party activity but do not have the right to vote or to become office bearers of the organization.

Objectives and Programmes. According to its new constitution of 1957, the objectives of the party include "the well-being and advancement of the people of India and the establishment in India by peaceful and legitimate means, of a Socialist Cooperative Commonwealth, based on equality of opportunity and of political, economic and social rights and aiming at world peace and fellowship". Earlier, at its Avadi session in 1955 the famous resolution on the "Socialistic Pattern of Society" was adopted. This envisaged the social ownership of all means of production of national wealth, more equitable distribution of national wealth and thereby the abolition of conditions of poverty. It implies that "the State will necessarily play a vital part in planning and development, especially of basic industries which are vital to the life of the community as a whole. But the Party does not aim at a centralized or a regimented society—as the socialistic order is taken to mean in the West. The achievement of a socialist pattern is essentially to be peaceful and democratic and shorn of its traditional manifestations—class struggle, violence and revolution. Congress socialism is Gandhian socialism rather than the Marxian one. The party believes that such a society will create conditions of full employment on which the party has of late been laying emphasis.

The foreign policy of the Congress is embodied in the famous Panch Sheela, the five principles, which are :

1. Mutual respect for territorial integrity and sovereignty of all nations.
2. Non-aggression.
3. Non-interference in the domestic affairs of other countries.
4. Equality and mutual benefit.
5. Peaceful co-existence among nations, following different ideologies and forms of government.

The Communist Party of India (C.P.I.)

The Communist Party of India (C.P.I.) was formed in 1924 but was immediately banned. For many years it lay low and many of its leaders entered the Congress Party from where they organized the Trade Union Movement. After the Russian entry into the

Second World War on the side of the allies, the Communists left the Congress, which stood poised against the British government, and supported the British war effort. This was parting their ways with the Congress for good. In view of the party's attitude towards the government and the conduct of war, the ban on the Communist Party was lifted in 1943.

In the first general elections (1952), the Communist Party won 181 State Assembly seats of the 587 contested, winning a significant percentage of votes in Travancore-Cochin, Madras, Andhra and West Bengal. It improved its position further in the second general elections and emerged as the second largest party in the country. It captured majority of seats in Kerala (1957) and ran the government there for the next two years. In the Lok Sabha, it had 30 seats and was the largest opposition group. It continued to enjoy this privilege even after the third general elections in 1962. In the 1967 general elections, the party has won 41 seats (C.P.I.-Right - 22 and C.P.I.-Marxist - 19) in the Parliament and about 250 seats in the State Assemblies. The C.P.I. was a constituent part of the non-Congress Governments in Kerala, West Bengal, Orissa, Bihar, Madhya Pradesh, U.P. and Punjab.

Organisation. The party professes to be the only genuine working class movement. Any adult, contributing to the communist ideology and duly sponsored by two party members can become an active member of the party. All members are required to be well conversant with the communist ideology especially the fundamental principles of Marxism and Leninism which they are under obligation to explain to the non-communist masses. The supreme authority in the party is the All India Party Congress with the Central Committee as its working executive. Below it are the State, District, Town and Village Committees. The smallest (and the last) unit is the "Cell" constituting a couple of members based industrially or territorially but ceaselessly spreading the party ideology and working with utmost discipline and zeal. The Central Committee of the Party elects, from among its members, the Politburo and a General Secretary who execute the decisions of the Central Committee and are answerable to it for all their actions.

Policy and Programmes. The Party professes to be "the organisation of the toiling masses", working for the realization of the dictatorship of the proletariat and building up of communism, based on the principles of Marxism and Leninism. It whole-heartedly supports the non-aligned foreign policy of the Congress, strongly opposes the America-sponsored security pacts, advocates central planning and nationalization of basic industries. Its other programmes include :

1. Immediate agrarian reforms, taking over of lands from the landlords (without compensation) and cancellation of debts owned by agricultural labour.
2. Planned free distribution of cultivable government lands among the landless tenants and labourers.
3. Extension of co-operation to cover production and distributive aspects.
4. Emphasis on basic and heavy industries and according them protection against foreign competition.
5. Development by

the State of such industries as armament, aircraft and ship-building. 6. Wholesale nationalization of all means of production and distribution. 7. Restrictions on the sending out of profits on the foreign investments. 8. State monopoly of foreign trade. 9. Heavier taxation on unearned incomes and virtual appropriation of all profits. 10. Cancellation of Privy Purses and other similar privileges granted to the Princes at the time of integration of their States. 11. A ban on wage-freeze and immediate increase in the wages of all workers. 12. Free and compulsory education, preferably in the regional languages. 13. Recognition of the right of collective bargaining through trade unions. 14. Rights of complete equality to women in all walks of life.

While the traditional Marxist-Leninist ways of achieving the above goals are recognised by the party's rank and file, the C. P. I. favours the change by peaceful means as also the continued existence of political parties should it come to power in the country.

Factionalism in the Party. The splitting of the present communist movement into the Rightists (supporting Russia) and the Leftists (considered pro-Peking) is, in fact, the projection in the C. P. I. of the Russo-Chinese ideological feud. After the Chinese aggression of 1962 against India, these differences have assumed the form of a permanent rupture in the party ranks. An ultra radical Communist Party (Marxist-Leninist) has recently come into being as the third faction of the movement.

The Praja Socialist Party

This party was formed by the merger of the Congress Socialist Party and the Krishak Mazdoor Praja Party of Acharya J.B. Kripalani. The Congress Socialist Party was formed within Congress in 1934 and it represented the leftist wing of the organization. Its contribution during the Quit India movement of 1942 was considerable but immediately after independence it seceded from the parent body. Later, it was joined by the Krishak Mazdoor Praja Party and the new organization was named as Praja Socialist Party (P.S.P.).

Its Programme. The P.S.P. professes to "establish through peaceful means a democratic socialist society free from social, political and economic exploitation". It supports decentralization of authority, democratic practices, revitalization of agriculture, reactivation of industrial production, socialization of means of production and distribution, comprehensive and integrated land reforms, elimination of landlordism, cooperative production, distribution and marketing agencies, decentralization of industry and more equitable distribution of national wealth. With the merger in 1964 of some smaller political groups in it, the party was renamed Samyukta Socialist Party but later the group, led by Dr. Ram Manohar Lohia, seceded from it and revived the Socialist Party.

The Bhartiya Jana Sangh.

The Party was formed by Dr. Shyama Prasad Mookerjee in

1952. The core of its leadership consists of the former members of the Rashtriya Swayam Sewak Sangh (R. S. S.).

Aims and Objects. The party believes in the principle of "One country, one nation, one culture and one national ideal". Not contributing to any 'ism', it puts the national interest above all others, supports arming of the country to face the combined threat of Peking and Rawalpindi, complete merger of J. and K. into India, making of nuclear weapons, compulsory military training and unitary form of government. The Party strongly opposes the exploitation of the poor by the rich or of the workers by the industrialists but at the same time does not advocate nationalization of industry. Its foreign policy is motivated by the "enlightened self-interest of India", peace and goodwill for all, opposition to Western as well as "Russian imperialism", harder attitude towards Pakistan and China and withdrawal of Kashmir issue from the Security Council.

All India Hindu Mahasabha.

The Mahasabha was founded in 1909 as a reaction against the formation of the Muslim League in 1906. Strongly antagonistic to the Muslim League, it advocated formation of a Hindu Rashtra and stood for the promotion of Hindu race, religion, culture and civilization. The Mahasabha stands for the establishment of "Akhand Bharat" after nullifying the partition of the country, removal of all social disabilities among the Hindus, a new Constitution, steeped into the local traditions and culture and a unitary form of government, allowing no possibility of separatism, linguism, or even State autonomy.

The Muslim League.

The All India Muslim League was formed in 1906. It was the brain child of the high British officials who were eager to organize Muslim communalism as a counterweight to the national movement represented by the Congress. True to its objectives, the party continued to spearhead a reaction to the nationalist movement till 1938 when it propounded the "Two-Nation" theory, claiming that Muslims were no longer an Indian minority but a separate nation with different culture, traditions and way of life. The result was the partition of country in 1947. After the partition, the party was split into two—one for the Pakistan Union as a full-fledged political party and the other for India which professed to be a cultural organization. Later, the Indian unit of the party revived political activity and came to have some following in Kerala and a couple of other States. According to press reports, the party is now planning to revive political activity in all States.

Akali Dal

It is a religio-political party of the Sikhs in the Punjab (however in a recent policy statement, Sant Fateh Singh has claimed it to be a secular organization). It struggled for years for the creation of a Punjabi-speaking State which was granted with the reorganization of Punjab in 1966. The Akali Party, systematically organized at the State, District, Town and Village levels, has been a

divided house. It has at present three independent factions, functioning under the same official name, the Shiromani Akali Dal. The factions are 1. Akali Dal group (also called Panchkausali Akali Dal) led formerly by Master Tara Singh and occasionally demanding "self-determination for the Sikhs; 2. Akali Dal group led by Sant Fateh Singh (representing the moderates among the Akalis) and including the Akali group (mainly parliamentary) led by former Punjab Chief Minister Gurnam Singh. The third Akali Dal is led by Mrs. Nirlep Kaur, Akali M.P.

Swatantra Party

The Swatantra Party was organised in 1959 as a reaction to the socialist programmes of the Congress with the professed aim that "social justice and welfare can be reached more certainly and properly in other ways than through the techniques of the so called socialism". The emergence of this party was hailed by some as "a balancing wheel between conservatism and radicalism". In the third general elections, the party secured 8 per cent of the popular vote, 27 of the 494 elected Lok Sabha seats and 200 of the total 3,000 State Assembly seats. After the Fourth General Elections, the party is the largest opposition group with 44 members in the Parliament. The Party has on its rolls such political luminaries as C. Rajagopalachari, K.M. Munshi, N.G. Ranga and M.R. Masani. A majority of former princes and big industrialists are also members of this organization.

Aims and Objects. The Party holds that social justice and welfare should not be sought to be brought about by violence, revolution or State compulsion, with their accompaniments of injustice, expropriation and repudiation of obligations. They can be brought about by "spread of doctrine of trusteeship, adumbrated by Gandhiji". The party has secular, individualistic ideology, favouring free and fair competitive economy, non-intervention of State in the economic life of the country, scrapping of plans and opposition to cooperative movement. "The business of government", it chides the ruling party, "is government not business". Its foreign policy comprises opposition to Panch Sheela, to non-alignment and to any kind of close relationship with Russia. It advocates conciliatory policy towards Pakistan.

Dravida Munnetra Kazhagam (D.M.K.)

The Dravida Munnetra Kazhagam (DMK) assumed an independent identity in 1949 following a split within the parent body, Dravida Kazhagam, led by E.V. Ramaswami Naicker. It is an important political organization of South India which had, in the past, professed animosity towards Brahmanism, and to domination of North over the South. It also preached the creation of Dravidistan and spearheaded opposition in the South to the Constitution and to recognition of Hindi as the national language of India.

But the DMK has since moved far from its old days of Brahman baiting, and extremism which characterised its formative

years. Under the leadership of late C.N. Annadurai, the party has shifted from its secessionist demand to fruitful cooperation under the Constitution. The Party has considerable following in Tamil Nadu where it runs the government at present.

Aims and Objects. The Party's objectives include land reforms, fair deal to labour, social reforms, opposition to the introduction and compulsory study of Hindi in the South, and bringing down the price level. Now that the party is in power in Tamil Nadu, its attitude towards various national issues has mellowed.

MINOR POLITICAL PARTIES

Jamait-Ul-Ulema-i-Hind. It is a religious and cultural organization of the Muslim divines and religious teachers. In the pre-independence days, the party was opposed to the demand of Pakistan.

All India Muslim Majlis. An organization of the nationalist Muslims, it opposed the creation of Pakistan and supported the policies of the Congress.

Revolutionary Socialist Party. The Party advocates Marxian socialism and is pledged to bring about such an order by means of a revolution. Its aims and objects hardly differ from those of the Communist Party.

Revolutionary Communist Party. The party professes its faith in the communist ideology as preached by Lenin but, at the same time, is anti-Russian with strong Trotskyite leanings.

Forward Bloc. It was formed in 1938 within the Congress by Netaji Subash Chandra Bose and it represented the leftist and extremist sections in the parent organization. After partition, the party left the Congress. Its aims and objects include the desirability of direct action, repudiation of all compromises, establishment of a socialist State and withdrawal from the Commonwealth.

Forward Bloc (Marxist). An extreme leftist section within the Forward Bloc, it seceded from the Party and organised a separate organization known as Forward Bloc (Marxist) in 1950.

Scheduled Castes Federation. It was formed by the late Dr. B.R. Ambedkar. After partition, it failed to have a large following and at present has no political or economic programme.

Peasants and Workers Party. The party, which is active only in a couple of States, aims at severance of connections with the Commonwealth, expropriation of landlords without compensation, nationalization of means of production, banks and other such institutions and confiscation of foreign capital.

CHAPTER 22

PHILOSOPHY OF MAHATMA GANDHI

Q. Explain Gandhiji's views on the following :-

(a) Economic equality, (b) Panchayat Raj. (150 words each).
(I.A.S., 1970)

Ans. (a) The concept of economic equality is embodied in the Gandhian ideals of non-possession, non-stealing and trusteeship. Co-existence of superfluities and starvation makes realization of spiritual unity between the rich and the poor extremely difficult as they breed exploitation and frustration, want and squalor. The ideal of non-possession means renunciation of superfluous wants and possession of only the basic necessities. Non-stealing amounts to refusal to acquire or keep that is not ours by any justification. Under trusteeship, the capitalist is expected to appropriate only what satisfies his basic requirements. What remains thereafter is to be held in trust for equitable distribution among members of the society. Economic equality, according to Gandhiji, is the master-key to non-violent independence and non-violent State. As the goal of absolute equality of remuneration is difficult to achieve, he stresses equitable distribution of superfluous wealth in such a manner that every one has a modest house, balanced food and sufficient clothing. The best way of achieving this is for the rich to voluntarily reduce themselves to the level of "poorest of the poor".

(b) See page 574.

Q. Why did Gandhiji advocate prohibition? Mention the States in India in which there is complete prohibition. Examine the effect of prohibition on the economy and social life in areas where it has been introduced. (Not more than 250 words.)

(I.A.S. 1959)

Ans. "Drink" says Gandhiji, "is more a disease than a vice" and adds that "such diseased persons moral powers have got to be helped against themselves." Drinking, according to him, breeds social evil, moral degradation, economic disaster and physical and mental incapacitation. He considered enforcement of prohibition as a moral duty of the State. He not only frowned at the revenue that the consumption and sale of liquor yield to the State but also forcefully stressed that such a revenue was highly immoral. He wanted the government to enact and rigorously implement the dry laws and remove all kinds of temptations to drinking.

In India only three States, e.g., Gujarat, Maharashtra and Tamil Nadu have introduced complete prohibition. These States have undoubtedly suffered drying up of some sources of revenue but the prohibition has, at the same time, considerably reduced Government spending on the eradication of the social consequences of drinking. The economic and moral life of the lower strata of workers in these States has been rehabilitated. According to some surveys, thousands of former liquor-addicts have been restored to

their families and, above all, their attitude on life has brightened up with hope and expectation. Their indebtedness has also greatly reduced.

Q. Write a short essay of about 250 to 300 words on the contribution of Mahatma Gandhi to Indian politics.

(Cent. Info. Ser., 1969)

Ans. Before Gandhiji's initiation into politics, the Indian political scene was markedly dominated by western values. The Congress, run by some anglicised Indians, advocated for Indians not an independent status but a kind of semi-dependence on England. However, Gandhiji's advent into the Indian politics marks the beginning of a period, characterised by new methods, new values, and new attitudes towards politics, life and its problems. After the legislation of the Rowlatt Act and the 1919 massacre of Jallianwala Bagh, Gandhiji had developed into a pronounced opponent of the continuance of British rule in India. His revolutionary genius lay in his recognition of the fact that the disarmed Indian people needed direct action, non-violent but consistent, to throw off of the foreign yoke. He transformed the Indian National Congress into a mass organization, organized throughout the length and breadth of the country. From then onwards, he dominated the Indian political scene, launched numerous campaigns, advocated non-cooperation and gave the nation such philosophies as primacy of means over ends, non-violence, satyagraha, Sarvodaya, Basic education and Swadeshi spirit. With a great urgency, he said in 1920 "Swaraj in one year", in 1930 "Now or never" and in 1942 "Do or die". The cumulative effect of his campaigns was the Indian independence in 1947.

Q. Explain briefly and comment on Gandhiji's ideas regarding (a) caste, (b) resorting to fasts and (c) trusteeship.

(I.A.S., 1967)

Ans. (a) "Varna is not caste", said Gandhiji and added, "It is a class, having reference to calling. The discrimination of status based on births, which is implied in the caste system, as practised in India, is wrong". "Varana", according to him, "does not connote a set of rights or privileges; it prescribes duties or obligations only". A Brahmin, not revealing the attributes of a Brahmin is no Brahmin at all while a Sudra revealing such attributes is the real Brahmin.

(b) Gandhiji prescribed silence, prayer and fasting as powerful factors in spiritual growth and indispensable aids to seeking truth. Fasting, he said, is the sincerest form of prayer. "There is no prayer without fasting and fasting which is not an integral form of prayer is a mere torture of the flesh". Gandhiji has, however, laid down the qualifications of a man who can effectively observe fasting. In a satyagrahi fast, there can be no room for lack of faith, anger, impatience or selfishness. These turn the fast violent. Fasting cannot, however, be employed correctly and effectively by the masses. It can only be resorted to by select and qualified individuals.

(c) Gandhiji opined that the capitalist can be a real service to the society if he rises above the profit motive and adopts a paternal or fraternal attitude towards labour. Both labour and capital should act as mutual trustees and trustees of consumers. Profit, the surplus value with the capitalist, should be held in trust for distribution among the labour in various ways. This implied an ideal of economic equality. The business enterprises owed the capitalist but only bare necessities of life, the rest being the lawful property of the labour, the real producers. Exclusive appropriation of profit by the capitalist is, therefore, thievery.

THE PHILOSOPHY OF MAHATMA GANDHI

Does Mahatma Gandhi, the great revolutionary and the apostle of peace, really have a rightful claim to a systematic philosophy? Philosophy, as the word is generally defined, is the knowledge of (or search for) the ultimate principles of knowledge or being. Schwegler defines philosophy as "reflection, the thinking consideration of things." Considered strictly in that context, Gandhiji may not be accepted as a system-builder in philosophy because philosophy as speculation for its own sake had never been the concern of his practical mind. He was, therefore, not a philosopher as we take Bentham, J.S. Mill, Green and others to be.

Throughout his life, Gandhiji waged a grim fight against violence, untruth, ignorance and malaise in every field of human activity. In his struggle, he made practical plans and decisions as the prevailing circumstances warranted but a ceaseless search for truth permeated his whole life. In fact, it is his ideal of truth and its practical application to actual life from which his whole philosophy emanates. In his busy and eventful life, he spoke on and wrote about many things of vital concern to human life and wisdom. A systematic piecing together of his scattered observations about the individual, soul, society and State will present a coherent picture of his thought.

The Nature of Gandhian Philosophy. Human nature, according to Gandhiji, is essentially one. Man is a totality. Innate tendencies or instincts that remain essentially same with all people in all times and at all places. The apparent diversities of human nature, therefore, are only due to the influence of material forces on man. A thief has all the qualities of a saint, but his outward circumstances compel him to thieving. On occasions the material forces compel him to act as an instrument of Satan while on others when his human qualities prevail, he ushers in an era of happiness and prosperity. Thus man is the result of a conflict between good and evil.

Unlike Marx, Hegel, Mill or Green, Gandhiji did not, as mentioned earlier, prepare a systematic treatise on his philosophy. But if we glean his ideas from his various writings we find that the following three points constitute his philosophy in general :—

1. Good conduct to combat the forces of evil ;
2. Moral approach to political and social problems ;
3. Decentralization of political and economic power.

Mahatmaji once described the modern civilization as "a disease" which "takes note neither of morality nor of religion". The tremendous advance in science and technology has given man greater mechanical mastery over nature. At the same time, this has made understanding and self-control progressively difficult. The material progress has, therefore, spelt moral ruin. According to Gandhiji, forces of evil are at work in the society at large. Oppression, violence and exploitation are the order of the day and with a view to ushering in an era of real happiness and prosperity, these evils must be banished from our midst. For him, truth and non-violence are the most potential weapons against evil. He is, however, not a prophet of gloom. He says, "I remain an optimist not that there is any evidence that I can give that right is going to prosper, but because of my unflinching faith that right must prosper in the end."

Ends and Means (The Ethical Principles). Eradication of evil in the society is essential and the means we employ to do it are equally important. Gandhiji would not prescribe employment of bad means to combat the forces of evil. "Means and ends are convertible terms," he says, "and there is no wall of separation between them". If we employ bad means, it would not only not combat the evil but would also give a new lease of life to it. For him, the ends and means are closely related because the action, in the full sense, includes the motives as well as the effects. "The means may be likened," he says, "to a seed; the end to a tree; and there is just the same inviolable connexion between the means and the end as there is between the seed and the tree". Consequently, as the means so the end. He stresses that any compromise with the means results always in a setback to progress in the path of truth and non-violence. Why Gandhiji laid so much emphasis on means than on the end can be explained by the fact that we have control only over the means and never over the ends.

In his concept of means and ends, the former can be identified with non-violence and the latter with the truth. But as he said himself, "they are like two sides of a smooth, unstamped metallic disc and are so intertwined that it is difficult to disentangle and separate them". Ends flow out of means; means are, therefore, much more important. It was on the basis of this relationship between the means and the ends that he exposed the tragedy of modern socialism. Socialism, as he interprets, is essentially humanitarian—social regeneration and elimination of all forms of evil. But to achieve that end, the communists use war, violence and coercion which kill the very good it intends to bring about.

Truth and Non-Violence. Truth and non-violence constitute in themselves all the good means that Gandhiji can think of. Truth, to him, is God with all the good qualities that the latter term connotes. Satya is the foundation of all his philosophy, his metaphysics and his religion. The word "Satya" is derived from "Sat" which means 'being' or 'existence'—that is to say, Truth is the ultimate reality. Gandhiji is an absolutist and monist in philosophy. He calls Truth, in the absolute sense of the term, as God.

"God is truth", he said, "but He is many many other things also." So he prefers to say that truth is God. God or truth is not only the immanent reality but is also transcendent. He is, not only in us, but also out of us, not only the life of the universe, but also beyond it as its Creator, Sustainer and Judge.

Divine is the central truth in man. Firm faith in God is indispensable for good life as well as for the use of non-violent resistance. All other allegiances and obligations are binding in so far as they are consistent with the basic loyalty to truth. His concept of truth is all pervasive and all embracing. "Whenever, men begin to see beauty in truth, true art will arise."

Faith in Satya is the starting point of Gandhiji's philosophy. The greatest truth consists in loving and serving all i.e., in striving after "the greatest good of all". Thus Satya cannot be pursued by violent means nor can spiritual unity be realized by divisive means. A scrupulous discipline is needed to practise Satya; that discipline is self-control, acquired by the pursuit of non-violent values. Violence is 'asatya', he insists, whereas non-violence represents the largest love—love even for the evil-doer. Non-violence, in itself, is a practical achievement. It seeks to conquer evil by truth, to resist physical force with soul-force and to thereby convert 'the evil-doer by undertaking suffering cheerfully. Non-violence, he defines, is "avoiding injury to anything on earth in thought, word or deed." To kill any living being or thing save for his or its own interest is "himsa", however noble the motive may otherwise be.

According to him, non-violence is essentially the weapon of the brave. It is born out of his inner conviction based on moral considerations. It is the non-violence without any mental reservations. It is that level of moral development at which violence is intolerable. The non-violence of the weak, however, is only a measure of expediency. It just serves his purpose. To practise non-violence, the Satyagrahi (a votary of truth) must shed fear, be humble and should be capable of exercising control over his thought, word and deed.

Ahimsa is thus an all-pervasive eternal principle, applicable to every situation in life without any exception. "For me," he stresses, "ahimsa comes before Swaraj... Ahimsa must be placed before everything else while it is professed." Non-violence is not just non-killing. "Other insidious forms of himsa are harsh words, harsh judgments, ill-will, anger, spite, cruelty, the torture of men and animals, the starvation, wanton humiliation and oppression of the weak etc. etc." Thus non-violence, in its most general sense, is goodwill towards all life. It is positive and essentially a dynamic force.

Ahimsa means love even for the evil-doer, though it does not mean submission to him or to his will. Evil he holds, cannot be overcome by evil, by violence or retaliation. Evil for evil amounts to collaboration with evil-doer in propagating evil and thereby starting a vicious circle that ends nowhere. Non-violence is to conquer evil by good. (L.I.C., 1964)

Satyagraha. The term Satyagraha was coined by Gandhiji to express the nature of the non-violent direct action of the Indians in South Africa against the government there. The literal meaning of Satyagraha is "holding on to truth" or "insistence on truth". Satyagraha is to love all and to suffer for all. It is the "vindication of truth not by the infliction of suffering on the opponent but on one's own self."

Gandhiji, however, takes special pains to explain that passive resistance is not Satyagraha. Passive resistance is a weapon of the weak, or a political weapon of expediency to gain a certain end while Satyagraha is a moral weapon based on the superiority of soul-force (or love force) over physical force. Passive resistance is the weapon of the weak because he wants to preserve himself. Satyagraha is the weapon of the brave who has the courage of dying without killing. Passive resistance aims at embarrassing the opponent but Satyagraha aims at weaning away the evil-doer from evil conduct by love and patient suffering. The essence of non-violent technique is to liquidate antagonism but not the antagonist. In Satyagraha, there is no room for hatred, ill-will and the like.

Gandhiji prescribed Satyagraha for an individual action as well as group action, the success in either case being judged in terms of moral values. The aim of individual as well as group Satyagraha is not to crush or punish the tyrant but to convert him. Conversion implies that the tyrant realizes his mistake, repents and there takes place a peaceful adjustment of differences. A person who cannot rise beyond his personal considerations or the one who cannot vindicate truth and justice is no Satyagrahi at all. Comparing the Satyagrahi with a soldier, the Mahatma says that as the soldier fights best when he has "blown up his bridges and burnt his boats" so is with the soldier of ahimsa. Constructive work to a Satyagrahi is what drilling is to a soldier in either case it is matter of discipline and preparation.

Weapons available to a Satyagrahi are rational persuasion and self-suffering, but the Mahatma stresses the primacy of the latter. Persuasion only involves reason, and appeals to the head. A Satyagrahi must move the heart also; and penetration of the heart comes from suffering. "It opens up the inner understanding in man." Only self-suffering eliminates force or violence. A Satyagrahi's progress is to be measured by the amount of self-suffering he undergoes cheerfully and without ill-will. There is nothing that is not capable of achievement by means of Satyagraha. "The hardest metal" he argued, "yields to sufficient heat. Even so must the hardest melt before sufficiency of the heat of non-violence and there is no limit to the capacity of non-violence to generate heat." More severe the tyranny, a harder discipline and suffering it requires by the Satyagrahi.

Non-Cooperation or Civil Disobedience. Non-cooperation, according to Gandhiji, is a universal remedy against all evils. Non-cooperation is necessary to wean away the government or its functionaries from wickedness. Thus non-cooperation with evil is as

much a duty as is cooperation with good. Even the evil-doer cannot succeed without the cooperation of the victims, even by force. Non-cooperation or civil disobedience is nothing but Satyagraha as corporate action. The most important condition precedent to any civil resistance is that there should be surety against any out-break of violence. The Satyagrahi army should always be prepared to make war unnecessary. He was, however, conscious that Satyagraha on mass scale was capable of erupting into violence; so he never stressed the number in Satyagraha. "It is always the quality", he said, "more so when the forces of violence are uppermost."

Non-cooperation may manifest itself in the form of hartal, social and economic boycott, picketing, fast and civil disobedience—the idea being to withdraw cooperation. Withdrawal of cooperation is "only expression of anguished love" the action is aimed not at the individuals but the evil systems. Non-cooperation, he defends, does not imply licence or lawlessness but, on the other hand, is the only alternative to chaos and anarchy.

Religion. Gandhiji had a deeply religious background. For him politics was the projection of his religious life. "You cannot divide," he argued, "social, economic, political and purely religious work into watertight compartments. Religion provides a moral basis to all other activities which they would otherwise lack, reducing life to a maze of 'sound and fury signifying nothing'". The Mahatma belonged to a religious family. At an early age, he became acquainted with Ramayana. During his stay in England as a student, he read a lot about Gita. Later, Jesus Christ, Tolstoy (*The Kingdom of God is Within You*), Ruskin, Thoreau and the Passive Resistance Movement in England had a profound effect on his sensitive mind. He borrowed freely from such philosophers as J.S. Mill and T.H. Green. He used to call Jesus Christ as the Prince of Satyagrahis and his teachings, as those of the Gita, were an important source of his philosophy of Satyagraha.

His political philosophy is a corollary of his religious and moral principles. He thought politics is governed either by religion or irreligion. By religion he did not mean a particular faith but to him religion meant "belief in the ordered moral government of the Universe". It was identical with morality. And Truth was the substance of this morality. Thus his religion ultimately boils down to Truth, his search being his permanent mission in life. Throughout his life, he experimented with Truth, as he writes in his autobiography.

He always identified Truth with God. But he did not have mere "mechanical adherence" to Truth and Ahimsa. God to him is a living force, that resides in, though is not, the body. Non-violence, he said, "is impossible without a living faith in God. Without it he won't have the courage to die without anger, without fear and without retaliation." To him, there is no antithesis between God and man. If the latter shuns egotism and melts into the ocean of humanity, he will "become one with God."

(I.A.S., 1966)

Rights and Duties. According to the Gandhian concept, rights are the opportunities necessary for self-realization, which is the highest duty. Every right really comes to be a right to perform one's duty — "the only right that is worth living for and dying for. It covers all legitimate rights." Gandhiji adds, "If instead of insisting on rights, everyone does his duty, there will immediately be the rule of order established among mankind...I venture to suggest that rights that do not flow directly from duty well performed are not worth having."

Secularism. Gandhiji had an abiding faith in all communities in India living a life of contented neighbourliness. Hinduization of India or nursing a sense of isolation by the minorities was foreign to his thinking. Existence of many religions in India portend, no danger to her freedom. In no part of the world, he asserts, are one nationality and one religion synonymous terms, nor have they ever been so in India. He, therefore, zealously pleaded for a lasting 'heart-unity' between Hindus and Muslims as also among all other communities.

Identification with common man. "To serve a cause without serving the people", said Gandhiji, "is a dead thing". He, therefore, identified himself with the people by reducing himself to the level of the poorest of the poor and, in addition, took the vow of non-possession. In 1921, he took the decision to wear nothing but the loin-cloth, the dress of the average Indian peasant. He hated privilege and monopoly. Whatever could not be shared with the masses was taboo to him. He condemned it as stealing and thievery.

Politics. "I could not be leading a religious life," says Gandhiji, "unless I identified myself with the whole of mankind, and that I could not do unless I took part in politics." This is how he explained his saintly presence in the field of politics. Politics, as the scientific definition goes, is the systematised knowledge of the relation of man as a political animal to society. Gandhiji's concept of the nature of man is steeped in his religio-metaphysical thought wherefrom he deduces moral truths for application to the facts of social life. Thus the Mahatma's views on politics are founded on his metaphysics. He did not separate religion from politics and thought that politics was only a projection of religion and morality. His ideas about ends and means (in politics as elsewhere), about non-violence, civil disobedience, non-cooperation, economy, ethics, industry and untouchability are all an appendix of his religious conviction. As he himself says: "If I take part in politics, it is because politics today encircles us like the coils of snake from which one cannot get out, no matter how one tries. I wish to wrestle with the snake. I am trying to introduce religion into politics. Those who say that religion has nothing to do with politics, do not know what religion means."

The State. "I look upon an increase of the power of the State," says Gandhiji, "with the greatest fear because although while apparently doing good by minimizing exploitation, it does the greatest harm to mankind by destroying individually which

lies at the root of all progress." In the political philosophy, Gandhiji is basically a philosophical anarchist and a decentralist. The ideal for Gandhiji is the ideal of self-realization or realization of Satya. The justification of the State depends on the contribution which it makes to that ideal. According to him, Truth can only be realized through non-violence which in its negative sense, means injury to none, but in its positive sense means service to all. The latter includes resisting all injustice through suffering and non-cooperation. Only that State which facilitates the realization of this ideal can demand our loyalty. But this ideal, being ethical in nature, can be realized only individually. For this liberty is an essential condition. Thus the achievement of this ideal - the greatest good of all - demands classlessness and Statelessness. Moreover, his opposition to State emanates from the compulsive and exploitive nature of the State. It has never, according to him, patronised the poor and is destructive of individuality. "The Stateless democracy", he advocates, "is the state of enlightened anarchy where social life is automatically regulated". This order he calls a spiritual democracy where non-violence rather than force is the regulative instrument of social relations. Accordingly, Gandhiji defines democracy as "the rule of unadulterated non-violence." Real democracy, he seems to argue, develops through the minds of men and not from without.

Gandhiji enjoins the Satyagrahi to refuse to be loyal to a State that does not fulfil his ethical ideal. "It is contrary", he says, "to our manhood, if we obey law contrary to our conscience." He, therefore, advocates non-cooperation or civil-disobedience to immoral laws.

Education. Gandhiji regarded education as the most powerful means for creating the new social order of his conception. By education he meant an all-round effort to bring out the best in man and child. He laid emphasis on the personality of the educated man and not on the tools or the subjects. According to him, it is far easier to educate children along proper lines than to change the adults. He attaches considerable importance to the elementary training of children in Satyagraha preceding literary education. Before the child is taught the rudiments of learning, he should know what truth is, what love is and how in practical life hate can be won over with love, untruth with truth and violence with self-suffering. The scheme of Basic Education, which he evolved, is, therefore, meant to revolutionize the system of education and to found it on non-violent basis.

Gandhiji stresses the importance of manual labour as the centre of educational process. He ridicules the prevailing system whereby most of the children are lost to the families and to the society. In accordance with his new system every child should be taught handicrafts scientifically but not mechanically. This is aimed at the development of child through the medium of and in correlation with a productive activity. The handicrafts are also designed to pay for the child's education and to return him, after training, to the society as a self-supporting unit. "My 'Nai Talim' (new

education) is not dependent on money", he says, "The running expenses should come from the educational process itself." Dignity of labour, modest and honest livelihood are also uppermost in his mind. All education is to be need-oriented, carried on through concrete life situations. Such a child, he maintains, will be conscious of the rights and duties of citizenship.

Thus, was evolved the Basic Education Scheme for children of 7 to 14 years of age. Under this system, the child's mother tongue is to become not only the medium of instruction but also the most important language. The instruction is also to be woven round some art or handicraft. He maintains that real and effective education cannot be divorced from work. Gandhiji has set forth two aims of education, *viz.*, the immediate and the ultimate. The former comprises the making of the child a useful member of the society whereas the latter aims at acquiring knowledge of God, leading to self-realization. The culture of heart or character-building is the primary concern of this education.

While recognizing the international importance of English Gandhiji believed that it could not become our *lingua franca* or the medium of instruction. He favoured Hindustani, written in Devanagari or Urdu script, to be the national language of India. It should be compulsorily taught in all schools in the country, though it may not be the medium of instruction in non-Hindi areas. Regional languages, pleaded Gandhiji, should be the media of instruction at all stages of education. (I. A. S., 1964)

Gandhian Economy. "Today machinery merely helps a few", says Gandhiji, "to ride on the backs of millions. The impetus behind it all is not the philosophy to save labour, but greed. It is against this constitution of things that I am fighting with all my might." This is the core of Gandhiji's economic philosophy and also his opposition to the modern production system. Non-violence and centralised industry, he thinks, are incompatible. The Gandhian philosophy is based on three broad principles, namely: (i) Non-Possession, (ii) Non-Stealing, and (iii) Trusteeship.

Non-possession means renunciation of all superfluous wants and possession of only those necessities of life that help in the realization of Gandhian ideal of Satya. Non-stealing amounts to refusal to acquire or keep something that is not ours by any justification. Stealing also includes the things that we possess over and above our basic needs. Thus appropriation of profits by the capitalist and luxuries enjoyed by most of us are, in the Gandhian economy, stealing. According to him, the superfluous wealth, characterized by profits and resources above our minimum requirements should be held in trust for equitable distribution among members of the society. This he called the Trusteeship and herein he echoes the Marxian concept "To each according to his needs."

But Gandhiji, in his thought, was neither acquisitive nor communistic. He failed to find anything commendable in capitalism, but at the same time he rebuked the communists for their dialectical materialism, violence, revolution, their hatred against the capitalists and their materialistic, 'godless' creed. Instead,

Gandhiji endeavoured to promote the khadi spirit—the complete renunciation of everything that harms the fellow creatures. Metallic values give rise to violence, possession and other evils, he said, whereas human values foster Satya and non-violence. The khadi spirit is the symbol of cottage industrialism where production is manual, scattered, diffused and non-centralised. It teaches self-sufficiency and simplicity, can relieve rural poverty and uplift the standard of Indian villages. This will enhance their creative urge and save them from becoming mere statistical units. In this democratic community of self-contained villages, there will be no international trade, very little of it between one province and another, even one district and another.

Swadeshi. “Swadeshi”, Gandhiji defines, “is that spirit in us which restricts us to the use and service of our immediate surroundings to the exclusion of the more remote”. It demands the use of only those things that are produced in one’s immediate neighbourhood. The concept provides the much-needed protection to the industry on which depends the survival of millions of poor workers. Swadeshi spirit alone offers an immediate, practicable and permanent solution of the problem of idleness in India. According to C. F. Andrews, “Gandhiji’s Swadeshi principle makes for contentment with local conditions and with the things that God has provided for man’s sustenance, instead of the ruthless exploitation of other countries to obtain unnecessary luxuries; thus, overthrowing their own internal economic equilibrium and introducing discord”.

Machine Vs. Khadi. “I would make the spinning wheel” said Gandhiji, “the foundation on which to build a sound village life; I would make the wheel the centre round which all other activities will revolve.” According to him, large-scale industry propped up by machine, vitiates democracy. It leads to concentration of economic and political power in fewer hands, capable of misusing it. Non-violence and centralised industry are, therefore, incompatible. On the other hand, mass production degrades the worker and deprives him of his dignity and worth. It uproots him from his natural surroundings and turns him a mere unthinking mechanical productive process.

Gandhiji, therefore, contemplates an ideal State—a Stateless democracy constituting small, autonomous village republics, much away from and entirely uninfluenced by large-scale industrialization and the craze for machinery. Such a State will have an ideal economy of subsistence based on the spinning wheel and steeped into the khadi spirit. None will suffer from want of food or clothing and there will be sufficient work for everyone. Revival of handicrafts and cottage industries will do away with the prevailing poverty and unemployment and will ensure equitable distribution of wealth. It will also combat the socio-economic evils of both capitalism and communism. Decentralization of production will ensure automatic regulation of economic life with very little chance of exploitation, fraud or speculation.

Thus the khadi spirit—and only the khadi spirit—will fulfil

the Mahatma's three ideals of economy, *e.g.*, non-possession, non-stealing and trusteeship. (I. A. S., 1963)

Untouchability. Eradication of untouchability in any form was a significant goal before Gandhiji, next in importance only to Satya and non-violence. He strongly advocated the spiritual unity of all life. "We are all sparks of the same fire", he said, "the children of the same God." He calls the present day social divisions among Hindus as hideous distortion of the original "Varnas" into countless castes with gradations of high and low. "Varna" is determined, he admits, by birth but is retained, he adds, only by one's conduct and observance of its obligations. Thus a Brahmin, with an un-Brahmanic conduct, is no Brahmin at all. "Varna does not connote", he says, "a set of rights and privileges, it prescribes duties or obligations only".

Gandhiji ceaselessly fought for the liquidation of untouchability; he lived amongst the "untouchables" and called them "Harijans," the children of God. He undertook fasts and employed other means to combat this evil. In his "Constructive Programme" which he designed for every Satyagrahi, removal of untouchability received the second best importance. He had established the Harijan Sevak Sangh which looked after the Harijans and made efforts to ameliorate their lot. He often chided those who thought themselves superior due to their high birth and said, "In my opinion there is no inherited or acquired superiority. All have the same soul as any other. And it is because I believe in this inherent equality of all men that I fight the doctrine of superiority which many of our rulers arrogate to themselves. I consider that it is unmanly for any person to claim superiority over a fellow being".

Panchayats. A votary of decentralization in economic and administrative fields, Gandhiji recommends the creation of tiny village democracies or republics almost self-sufficient in all their needs. "The government of village," he advocated, "will be conducted by the Panchayat of five persons annually elected by the adult villagers, males and females...this panchayat will be the legislature, judiciary and executive combined to operate for its year of office". In his "Last Will and Testament", he envisages the panchayat system as follows: "Every panchayat of five adults, men and women, being villagers or village-minded shall form a unit. Two such contiguous panchayats shall form a working party under a leader elected from among themselves".

When there are one hundred such panchayats, the fifty first-grade leaders shall elect from among themselves a second-grade leader and so on, the first-grade leaders meanwhile working under the second grade leader. Parallel groups of two hundred panchayats shall continue to be formed till they cover the whole of India, each succeeding group of panchayats electing a second grade leader after the manner of the first. All second grade leaders shall serve for the whole of India and severally for their respective areas. The second-grade leaders may elect, whenever they deem necessary, from among themselves, a chief who will regulate and command all the groups.

Prohibition. Strictly on moral grounds, Gandhiji's ideal State will completely wipe out revenues derived from drink and drugs. Addicts to drinking and drugs are social lepers. "Drink", he says, "is more a disease than a vice." Such "diseased persons have got to be helped against themselves." An important item of his Constructive Programme is, therefore, total prohibition as State policy. Closing down of shops serving liquor and drugs is only the removal of open temptation. The real part relates to an effective, non-violent, persuasive propaganda among the people against this social evil. It is, therefore, one of the contradictions of Gandhian philosophy that it should enjoin the State, which is otherwise barred by it to interfere in the affairs of individuals, to enact and rigorously implement the dry laws.

Sarvodaya. Sarvodaya, a Gujarati word, means "the greatest good of all". In Gandhian philosophy, the highest aim of the State as well as the individual is to promote this concept. The Mahatma, however, took special pains to distinguish this idea of his from the utilitarian philosophy which propagated the greatest good of the greatest number. Mahatmaji calls the latter a heartless doctrine that promotes the supposed welfare of 51 per cent but sacrifices that of the 49 per cent. "The only real dignified human doctrine", he says, "is the greatest good of all, and this can only be achieved by uttermost self-sacrifice." He is, therefore, an absolutist rather than a utilitarian. He prescribes for the Satyagrahi to strive for the greatest good of all and even to lay down his life, if need be. That is the only way, he says, to achieve self-realization, to find God and to be with Him.

Gandhism and Socialism. Since 1930, Indian thought has been greatly influenced by three forces namely nationalism, socialism and Gandhism. Gandhiji, who had started with his "Purna Swaraj", ended with "Sarvodaya", the principle of greatest good of all. At the same time, he could not remain uninfluenced by the philosophy of socialism, though he never agreed to the traditional Marxian means to bring about socialism.

Marxian thought flows from the following four fundamental principles : 1. Dialectical materialism, a socio-economic, political doctrine, based on the conflict of classes which in turn are determined by their relationship to the means of production. 2. Acceptance of the instrumentality of violence in a revolutionary attempt to bring about a change in government. 3. Dictatorship of the proletariat to stabilize the revolution. 4. The ultimate emergence of a stage of Statelessness.

On the other hand, Gandhiji said, "Socialism is a beautiful word, and, so far as I am aware, in socialism all the members of society are equal--none low none high. In the individual body the head is not high because it is the top of the body, nor are the soles of feet low because they touch the earth. Even as members of the individual body are equal, so are the members of society. This is socialism." Gandhiji's philosophy envisages : 1. Greatest good of all including the principle that the labour of all persons is equal in value. 2. Spiritual and ethical values and the goodness

of human nature. 3. Compassion and love for all. 4. Distaste for violence and importance of means as well as of the ends. For the Mahatma, means and ends are convertible. 5. The concept of non-possession, non-stealing and trusteeship. This virtually amounts to surrendering by the capitalists all surplus value accruing as profit, to be distributed among the people according to their need.

Gandhiji himself said, "The socialism and communism of the West are based on certain conceptions which are fundamentally different from ours. One such conception is their belief in the essential selfishness of human nature". "My fundamental difference," he adds, "with the socialists is well known. I believe in conversion of human nature and in striving for it. They do not believe in it". Moreover, socialism for its association with violence and revolution goes against his grain. The western socialism is totally unacceptable to him, though capitalism is only partly tolerable because it circumscribes the evil. He prefers the latter, but as a lesser evil. .

For Marx, history is a perpetual conflict between the classes but Gandhiji terms history as a ceaseless growth, an "unfoldment in terms of spirituality". Gandhiji shares the socialist abhorrence of exploitation and injustice but he wants the amelioration of the poor man's lot with the cooperation of the rich. To set up one class against the other is not only, according to Gandhiji, unnecessary but also immoral. Capitalism, to him, is not evil ; only its misuse by some selfish people has made it appear an evil. His idea of trusteeship is the most significant departure from Marxism. He wants the capitalists to keep the barest minimum resources for their most necessary needs, keeping the rest with them as a trust to be ultimately returned to the society.

Gandhiji believes in an extreme form of decentralization of authority, creation of small, almost autonomous village republics, self-sufficient in all respects and steeped in the khadi spirit. He argues against large scale industrialization and decries the craze for machinery. Socialism, on the other hand, aims at regimentation, centralized production and distribution. The Mahatma wants no State interference in an individual's life, but socialism is the death-knell of individualism. Gandhiji equates his socialism with truth, non-violence, voluntary cooperation and rural civilization, based on handicrafts.

However, there are two points of surface similarity between Gandhism and Marxism. Firstly, both of them are dissatisfied with the world and demand a change. Secondly, both agree on the ultimate emergence of the ideal Statelessness, automatically regulated and highly disciplined. But beyond the two points of surface similarity, there is a world of difference between the two doctrines.

(I.A.S., 1965).

CHAPTER 23

CURRENT AFFAIRS (INDIA)

ECONOMIC AFFAIRS

THE UNION BUDGET (1970-71)

The Union Budget for 1970-71 was presented to the Lok Sabha on 28 February, 1970 by Prime Minister Indira Gandhi (who then held the portfolio of Finance after the resignation of Mr. Morarji Desai in July, 1969). Total gross receipts (revenue, capital and additional taxation) have been estimated at Rs. 5,860.49 crores and total expenditure (revenue and capital) at Rs. 5,340.64 crores. After accounting for a revenue transfer of Rs. 745.09 crores to the States, the Budget shows a deficit* of Rs. 225.24 crores which has been left uncovered. A quick look at the Budget proposals will present the following picture :

BUDGET AT A GLANCE

(Figure in Crores of Rs.)

| | 1969-70 | 1970-71 |
|---------------------|---------|---------|
| Revenue receipts | 3587.15 | 4036.78 |
| Capital receipts | 1975.51 | 1823.71 |
| Less States' share | 621.67 | 745.09 |
| Revenue expenditure | 2976.42 | 3152.18 |
| Capital expenditure | 2254.68 | 2188.46 |
| Overall deficit | 290.11 | 225.24 |

(Revenue receipts for 1970-71 include Rs. 170.06 crores of additional taxation.)

The total defence expenditure for the year 1970-71 is estimated at Rs. 1151.51 crores—an increase of Rs. 47 crores on the previous year—shared by the Army (Rs. 719 crores), Navy (Rs. 56.75 crores) and Air Force (Rs. 197 crores) and Capital outlay (Rs. 178.76 crores).

New Levies. The Budget proposals entailed new taxes amounting to Rs. 170 crores—Rs. 135 crores in indirect taxes and Rs. 35 crores in direct taxes. Duty on cigarettes has been increased by 3.22 per cent (anticipated revenue : Rs. 13.50 crores), sugar by 14.5 per cent (Rs. 28.5 crores), motor spirit by 10 Paise a litre and kerosene and furnace oil by 2 Paise a litre (Rs. 39.5 crores), preserved foods by 10 per cent *ad valorem* (Rs. 8.68 crores), air conditioners and large refrigerators by 13.3 per cent (Rs. 2.24 crores), machinery by 7.5 per cent *ad valorem* and wines (Rs. 29.75 crores). Other items on which increases in excise duty have been announced are office machines, sparking plugs, iron safes, sanitary ware, polyester fibre and artificial silk. Rates of surcharge on personal incomes and those of wealth tax have been enhanced. Exemption limit in respect of Gift Tax has been reduced from

*With the economy growing, said Prime Minister Indira Gandhi, at the rate of 5 to 6 per cent with enough foodstocks in godowns and with a prospect of an over 100 million tonne food output in 1970-71, the uncovered deficit of Rs. 225 crores would not affect the prices adversely.

Rs. 10,000 to Rs. 5,000. Postal rates have also been raised. 20 per cent duty *ad valorem* was imposed on TV sets (later reduced to 10 per cent).

Tax relief. Export duty on tea has been withdrawn but excise duty on loose and packed costly teas has been increased, resulting in an estimated annual loss of Rs. 8.85 crores. For purposes of income tax, there will now be a uniform exemption limit of Rs. 5,000 for all kinds of assesseees. Income of the extent of Rs. 5,000 derived from investments in Unit Trust or shares in Indian Companies and of Rs. 3,000 a year from investments in certain specified categories of financial assets, has been exempted from income tax. A minimum monthly deduction of Rs. 20 from income has been allowed for travel to all salaried assesseees.

State of the Indian Economy

General. The year 1968-69 was the year of revival as it had shown signs of considerable promise, increased industrial and agricultural production, restoration of price stability, increased export earnings, a keener attitude towards import substitution and a serious effort towards self-reliance. The previous two years or so were the worst period of economic set-back. The turning point was, however, represented by the record agricultural production of 95.6 million tonnes in 1967-68. Commercial crops namely jute, cotton, oilseeds, tea and coffee also registered significant gains. In spite of drought conditions and floods in some regions of the country during 1968-69, the production for the year had been as good as the previous year's. The "Green Revolution" or the agricultural breakthrough was the result of the Indian farmer's increasing interest in scientific agricultural practices, his efforts at massive investments in land, agricultural machinery, ground-water exploitation and use of agricultural inputs like fertilisers etc. During 1968-69, an additional area of 8.5 million hectares was brought under high-yielding varieties.

The Government supported the farmer with matching enthusiasm. Large-scale imports of fertilizers have been effected while the indigenous supply of this necessary input is being stepped up. New fertilizer plants at Gorakhpur, Namrup, Kota, Kanpur, Durgapur, Cochin and Baroda are expected to be put on steam soon. Tractor manufacture has been delicensed with a view to stepping up its production. More liberal imports of foreign agricultural machinery have been planned. Easier credit terms are being offered to the farmer now by the cooperative and other banks—thanks to the nationalization of banking concerns. Large funds were also provided for storage and preservation of foodgrains. The agricultural breakthrough raised the national income during 1967-68 by 9.1 per cent over the previous year. In 1967-68, the net national income was Rs. 16,665 crores as against Rs. 15,272 crores in 1966-67.

The year 1969-70 closed with a buoyant outlook in almost all fields of economic activity. Substantial increases were registered in agricultural and industrial production, in exports and foreign exchange reserves. Overall economic growth rate of 5 to 5.5 per cent, as envisaged in the Plan, was achieved.

Food Production. The agricultural production increased from 94 million tonnes in 1968-69 to about 100 million tonnes in 1969-70, and is likely to be about 104.5 million tonnes in 1970-71. (The Planning Commission officials put the expected production at 106 million tonnes, the kharif yield accounting for 70 million tonnes.) The output of commercial crops like jute, cotton and oilseeds has also registered substantial increases. The area under high yielding varieties of crops increased from 9.3 million hectares in 1968-69 to 10.9 million hectares and the area under multiple cropping from 6 million hectares in 1968-69 to 8 million hectares during 1969-70. The additional area benefiting from minor irrigation in 1969-70 was 1.4 million. In 1970-71, more than 14 million hectares will be under high-yielding varieties. Agricultural inputs like fertilizers are being increasingly used. Price incentives have been maintained by the government throughout. If plans go by the schedule, imports of foodgrains under PL 480 will stop by 1971.

Further steps are, however, needed to maintain the production tempo in foodgrains as also to achieve the required increases in coarse grains, pulses and commercial crops. This involves dissemination of new technology, resort to extensive dry farming, agro-research, land consolidation and land reforms. To these must be added the spread of ancillary activities and credit and marketing facilities. These steps are essential for better economic equalization and for avoiding social tensions and ensuring social justice as also sustained increases in production. (It has of late been complained that only the affluent farmers, who could afford mechanized farming and improved production techniques, have reaped benefits from the "green revolution". This has resulted in or accentuated social tensions in the rural areas between the poor and the rich).

Industry. The recession in industry was initiated by successive droughts and the consequent fall in agricultural production during 1965-67. The production in agro industries fell sharply. However, conditions of industrial recovery found their germination in the breakthrough in agricultural production during 1967-68 and the years that followed. The tempo of increased industrial production was maintained* during 1968-69 and 1969-70. The compound rate of growth was 7.3 per cent during these years. Developmental activity in the public as well as the private sector has been buoyant. A new interest for investment in the private sector has been conspicuous. This has been made possible by improvement in the investment climate, rising agricultural incomes, increased government activity and growing industrial export demand. Financial institutions are making available easy credits to the private sector which is largely investing in heavy industry or large-size projects requiring extensive technology and expertise.

Savings and Investment. The rate of domestic savings was estimated to have risen from 8 per cent of national income in

*However a long spell of industrial peace is our crying need. Over 51 million man hours were lost during 1967-69 on account of strikes and lockouts. Production worth hundreds of crores of rupees suffered as a consequence.

1968-69 to about 9 per cent in 1969-70. Though gross bank credits rose by Rs. 539 crores, net bank credit to the private sector amounted to only Rs. 121 crores and was substantially lower than in the previous year. Bank lending increased by Rs. 100 crores. The 14 nationalized commercial banks with deposits over Rs. 50 crores each and the State Bank now control 83 per cent of the total deposits of the banking system and about 80 per cent of the total banking branches in the country. This has considerably helped to achieve the objectives of social and economic development and to conform to the priorities laid down in the Fourth Five Year Plan.

Deficit Financing. The budgeted deficit for 1969-70 was Rs. 254 crores at the Centre and Rs. 266 crores in the case of States, but the actual deficit financing was considerably less on account of recent rising trends in receipts. In addition, the Centre sanctioned special assistance of Rs. 102 crores to three States in order to enable them to clear their overdraft with the Reserve Bank.

Price Level. Certain economic and development factors exerted considerable pressure on prices during 1969-70. Wholesale prices rose sharply (8.9 per cent) between February and July, 1969 but declined during August-November. Ever since, the pressure on prices has again been considerable primarily due to shortfalls in agricultural commodities and spurt in demand therefor. Thus the monthly average of wholesale prices during January, 1970 was 6.8 per cent higher than the level a year ago. The Reserve Bank swung in action occasionally with its corrective measures to curb the rising price trends. Due to a judicious policy of partial decontrol, sugar was selling in 1969-70 at a price 40 per cent lower than in 1968.

Balance of Payments. India's balance of payments position is becoming progressively favourable. The overall improvement in the reserves position during 1968-69 was of the order of Rs. 96.6 crores and Rs. 199 crores up to March, 1970—foreign exchange reserves standing in April, 1970 at Rs. 776 crores (\$1035 million). This is the highest level of reserves since early 50's. Further, there was considerable improvement in India's liquidity position with the I. M. F. The allocation of the SDRs (Special Drawing Rights) of Rs. 94.5 crores in January, 1970 has had a favourable impact on India's liquidity position. On account of her strong reserve position, India had been asked by the IMF to contribute towards the SDR scheme rather than draw from it during last two quarters of 1970.

Imports and Exports. During 1968-69, the imports were worth Rs. 1741 crores, about 15 per cent less than Rs. 2,043 crores of the previous year. This was made possible largely by decline in imports of agricultural commodities by Rs. 181.6 crores. During 1969-70, imports stood at Rs. 1,511 crores, registering a steep fall. Exports, on the other hand, rose from Rs. 1,255 crores in 1967-68 to Rs. 1,367 crores in 1968-69—an increase of over 9 per cent. This was in spite of decline in earnings from export of jute, tea and cotton textiles. As a result, the adverse trade gap narrowed

sharply from Rs. 788 crores in 1967-68 to Rs. 373 crores in 1968-69. In 1969-70, exports rose to Rs. 1,410 crores bringing down the trade gap to Rs. 101 crores, perhaps the lowest during the last about 15 years.

One heartening feature of our foreign trade is the increased diversification of export base with resultant rise in overseas sales of several processed agricultural commodities as also engineering and chemical products. It is, however, a matter of concern that the trade gap in 1969-70 has narrowed down not as much due to increases in exports, as it has due to drastic decline in imports. The need to increase exports, therefore, remains an important factor of future effort. About 80 per cent of the total imports during the year 1970-71 will be channelled through public sector agencies. Serious efforts are afoot for the take-over of foreign trade by state agencies.

Public Sector Enterprises. The Public Sector plays a dominant role in the Indian economy. Its enterprises claim a total investment of Rs. 10,500 crores—Rs. 7,000 crores in the Railways, Posts and Telegraphs, the ports etc. and Rs. 3,500 crores in the manufacturing and commercial enterprises. However, the Public Sector manufacturing enterprises (with investment of Rs. 3,500 crores) have of late been the target of considerable criticism in the Parliament as well as in public for their recurrent fall in production and resultant losses which are progressively increasing. For example, Bokaro will continue to lose Rs. 20 crores annually till it reaches the 4 million-tonne capacity. Some of the major enterprises utilized only 15 per cent of their productive capacity during 1968-69.

The Central Government commercial and industrial undertakings number 85—61 are running concerns, 11 including Bokaro, Madras Refineries and Madras Fertilizers are under construction and 13 others are promotional and development undertakings of financial institutions. The largest enterprise—the Hindustan Steel Ltd. alone made a net operating loss of Rs. 39.42 crores in 1968-69. Of the rest, 35 concerns suffered a total loss of Rs. 52.81 crores and 25 others showed a total net profit of Rs. 65.36 crores during 1968-69. Thus the total overall loss suffered by these enterprises in 1968-69 was Rs. 26.87 crores. The net loss suffered by these enterprises in 1969-70 is estimated to be Rs. 40 crores. Hindustan Steel Ltd. alone is estimated to have lost Rs. 25 crores during this period, making the total losses so far up to Rs. 188 crores, about one third of its equity capital. To meet this serious situation faced by these enterprises, the Parliament's Committee on Public Undertakings has suggested that there should be better planning in the utilization of capacities, judicious cost consciousness and awareness of better management techniques on the part of the HSL.

THE FOREIGN AID

Need for Foreign Aid. Considering the massive investments that the country proposes to make for economic development during the Fourth Plan period and her resolve to move towards a self-reliant economy, as speedily as possible, India's foreign aid requirements are fairly large. She requires every year of the Plan

period at least \$ 1,000 million worth of non-project aid, \$ 500 million worth of project aid and sufficient debt relief. Considerable non-project aid is essential to ensure the flow of maintenance imports necessary for keeping up the pace of agricultural and industrial recovery. More important than the quantum of foreign aid is the assurance that India would receive assistance on continuing basis over a specified period. Unfortunately, the institutional and government-to-government aid resources are fast drying up and foreign capital is not coming forward in a big way. At present the total foreign capital invested in India is in the vicinity of Rs. 1,400 crores which is an infinitesimal part of the total industrial investment in the country.

Quantum of total aid received. Till September, 1969, aid authorizations totalling Rs. 8,131 crores had been made for India by the Aid India Consortium. Of this aid, India's total debt liability, as it stood on 31 March, 1970, was Rs. 7,062 crores comprising loans repayable in free foreign exchange (Rs. 4,820 crores), loans repayable through exports of goods (Rs. 513 crores) and loans in Indian rupee (Rs. 1,729 crores). In other words, loans repayable in foreign exchange amount to Rs. 5,333 crores. Payment of interest during the current year comes to about Rs. 170 crores.

Till July, 1970, the United States, the biggest donor among the Consortium countries, had given Rs. 7,137.98 crores in economic assistance, including 4,637* crores worth food aid under PL 480. This includes assistance given to India before the formation of Aid India Club. West German assistance till July, 1968 was Rs. 844.72 crores. Large amounts of aid were also received from Russia and some East European countries. Of the total IDA credits of \$ 2,773 million extended to about 55 countries up to June, 1970, India was the biggest borrower having secured 28 loans worth nearly \$1,265 million or 46 per cent of the total credits. IDA loans, it may be recalled, suit our requirements the most. These loans are interest-free except for three fourth per cent as service charges and are repayable over 50 years including a ten-year grace period, as against 7 per cent per annum interest charged on the World Bank loans.

Debt Repayment. According to some sources, total Indian debt repayments were : 1969-70 : \$ 724 million and 1970-71 : \$835 million. According to figures available, India had paid nearly \$ 658 million (including \$ 78 million to I.M.F.). This is against the actual Consortium authorizations in foreign assistance of \$ 842 million for 1969-70. The loan repayment amounts progressively increase as more loans fall due for repayment. In addition, the credit terms are sticky. Most of the aid is tied to purchases in specified countries but the repayment is demanded in free foreign exchange. Tied aid is, in actual terms, worth 25 per cent less than

*Of the Rs. 4,637 crores (representing the money realized from the sale of food aid under PL 480) deposited with the Reserve Bank of India, 80.2 per cent was given back to India in loans and grants for economic programmes and 6.6 per cent was kept for credits to private industries. The remaining 13.2 per cent was reserved for use by the US Government.

free foreign exchange. As for EEC, India cannot freely trade with these countries to adjust her debts.

The Consortium Aid (1969-70). The pledged 'Aid India Consortium' assistance of \$1,000 million (non-project : \$600 million, project : \$400 million and debt relief : \$100 million) for 1969-70 came down in actual authorizations to \$842 million as against \$777 million in 1968-69. The 1969-70 aid comprised \$292.6 million in project aid and \$550 million in non-project aid—the World Bank (including IDA) contributions to this aid being \$283 million. If, however, the repayment of loans during the year is adjusted against the total aid actually used, the net inflow, as estimated by the Government of India, would come to \$53 million only.

The Consortium Aid (1970-71). The 12-nation Aid India Consortium at its session at Paris in May, 1970 under the auspices of the World Bank, recommended \$1,100 million worth assistance for India during 1970-71. This comprised \$7,000 million as non-project aid (including \$100 million as debt relief) and \$400 million as project aid. The Indian case for assistance was ably pleaded by Mr. I.G. Patel, Secretary in the Ministry of Finance and was amply supported by Mr. I.P.M. Cargill, Director of World Bank's South Asia Department.

Aid Prospects. India's past experience about the Consortium aid indicates that there has always been a yawning gap between the donors' promise and their subsequent performance. In 1969-70, \$800 million of the promised \$1,100 million could materialise—which was perhaps the best performance over many years. With the American aid pledges rigorously and tortuously subjected to the Congressional approval, which has in the past been dilatory and miserly, and the ultimate slashing of aid figures by other donor countries, India may not get near the promised aid of \$1,100 million for 1970-71. Britain's commitments amount to £45 million (Rs. 81 crores) for the current year. The IDA has since announced a farm credit of \$35 million. Other firm commitments were yet to come.

One heartening feature of the future aid is that the 12 developed nations have decided to raise their current rate of annual replenishment of funds of the International Development Association (IDA), World Bank's soft loan affiliate, from \$400 million to \$813 million. India, as the largest beneficiary so far of the IDA funds, will, in future, be able to get larger development funds cheaper (almost interest free) and more easily. The Peterson Task Force Report on American foreign aid had earlier recommended untying of aid money, debt rescheduling, and radical increases in imports by the developed nations from the developing countries. He had, however, recommended against increases in bilateral aid through IDA.

Regulation of Industry

With the express aim of preventing economic growth in a haphazard manner as also putting a curb on concentration of wealth and growth of monopolies, the Government has, from time to time, devised regulatory mechanisms. Under the Industries (Development and Regulation) Act, 1951, all new and existing undertakings (including their expansion) were required to

be licensed. In the case of mismanagement, the State is empowered to take over their management or control. The State also provide financial assistance for the establishment of those important industries for which private capital is not forthcoming.

In an announcement on 18 February, 1970, the Government spelt out important features of its policy on industrial licensing, envisaging the raising of the industrial licensing exemption limit from Rs. 25 lakhs to Rs. one crore, relicensing of delicensed industries, curbs on the 20 big industrial houses, and provisions for the conversion of loans by public financial institutions into equity shares. The licensing exemption limit of Rs. one crore was also subjected to some conditions important among which are (i) the firm does not have assets exceeding Rs. 5 crores; (ii) it does not belong to the 20 big industrial houses and (iii) the new unit or its expansion does not require 10 per cent or Rs. 10 lakh by way of foreign exchange. Big industrial houses and foreign firms were encouraged to concentrate on heavy investment sector and the "core sector". But foreign participation in all new undertakings as well as expansion of the existing ones will be restricted to 40 per cent. The number of items of production in the delicensed sector to which the big industrial houses have been banned entry, has been increased from 52 to 80. Under the Monopolies Act (1970), none of the listed 75 industrial houses can expand its activity without the permission of the Government.

Industrial Statistics. The gross output of the private organized industry increased from Rs. 1,600 crores in 1950-51 to Rs. 5,240 crores in 1968-69. This is approximately 7.5 per cent of the total national income. Its total additional investment rose from Rs. 450 crores in the First Plan to Rs. 1,425 crores in Third Plan and will reach an estimated Rs. 2,600 crores in the Fourth Plan.

Annual Plan (1970-71)

The Annual Plan (1970-71), second year of the Fourth Five Year Plan, envisages a public sector outlay of Rs. 2,822 crores—roughly 17.7 per cent of the total public sector outlay of the Plan. The Plan aims at 5 per cent growth in agricultural production and 8 per cent in industrial production—aggregating to a 5.5 per cent growth rate in national income. Investment rate is likely to increase from 12 per cent in 1969-70 to over 13 per cent in 1970-71. Domestic savings will rise from 9.9 per cent to 11.2 per cent in 1970-71. The increased production in agriculture and industry will relieve the present pressure on prices and exercise a stabilizing influence. Foodgrain output will be 106 million tonnes, that of oilseeds 9 million tonnes and cotton and jute 6.5 and 6.7 million bales respectively. Deficit financing will be of the order of Rs. 225 crores—nearly 8 per cent of the Annual Plan outlay.

Nationalization of Banks

Social Control of Banks. The Ten-Point Resolution of the All India Congress Committee in 1967 recommended, among other things, social control of banking companies. This measure was later explained to aim at (i) stricter government control over the banks' managements, (ii) fashioning the banks' credit policies in such a way as to be effective instrument of social and economic

advance, (iii) setting up a National Credit Council to lay down annually the nation's credit policy and priorities, (iv) strengthening the Reserve Bank's control over the scheduled banks including the former's right to be consulted in the appointment of chairmen of banking institutions, (v) effective participation of such interests as farmers, cooperators and small and medium industrialists, and (vi) taking over of those banks which refused to comply with the above directives.

CWC Agrees on Bank Nationalization In a note written to the Party leadership, Prime Minister Indira Gandhi recommended total nationalization of banks for an effective credit policy for agriculture and small and medium industries. She expressed dissatisfaction over their performance and the modest changes that were said to have been brought about in the management structure of banks in the name of social control. Despite opposition from some influential quarters, the Congress Working Committee meeting at Bangalore on 11 July, 1969 adopted the new economic policy outlined by the Prime Minister and called for stricter social control of banks on their total nationalization.

Bank Nationalization Ordered. In a sudden and sweeping move on 19 July, 1969, the Government of India by an Ordinance promulgated by the Acting President (Mr. V. V. Giri), took over commercial banks with deposits of over Rs. 50 crores each. The 14 nationalized banks commanded deposits amounting to Rs. 2,700 crores. When the State Bank of India credits of Rs. 1,300 crores are added to these, the nationalized banking sector comes to control Rs. 4,000 crores of total banks' deposits of Rs. 4,600 crores. Prime Minister Indira Gandhi was confident that "it will mark a new and more rigorous phase in the implementation of our avowed policies and plans" and assured that public resources would no longer be deviated for speculative and unproductive purposes. The measure was, therefore, "in conformity with national priorities and objectives."

On 25 July, the Government introduced the Banking Companies (Acquisition and Transfer of Undertakings) Bill in the Parliament envisaging nationalization of the 14 major scheduled banks. The Bill was passed by the Lok Sabha on 4 August and after assent by the Acting President, Mr. M. Hidayatullah, became law on 9 August.

Bank Take-over Invalidated. The validity of the Parliamentary enactment on bank nationalization was challenged by Messrs. R. C. Cooper and T. M. Gurubuxani in the Supreme Court. An 11-member constitutional bench of the Supreme Court heard the petition. In its judgment delivered on 10 February, 1970, the Court, by a majority of 10 to 1, struck down as constitutionally invalid the Banking Companies (Acquisition and Transfer of Undertakings) Act 22 of 1969 under which the 14 commercial banks had been nationalized. The Court held that though the Parliament was competent to enact legislation for nationalizing the banks, the measure had made hostile discrimination against the said 14 banks in that it prohibited them from carrying on banking business whereas other (un-nationalized) Indian and foreign

banks were permitted to carry on the same business. Even new banks could be formed to engage in banking business. In addition, the compensation for taking over of the 14 commercial banks was thoroughly inadequate. The compensation scheme had adopted principles which were "irrelevant" or "not recognized".

Banks Renationalized. Four days later on 14 February, 1970, the 14 commercial banks whose take-over had been struck down by the Supreme Court were renationalized by a Presidential Ordinance. The Ordinance laid no principles of compensation though the total amount to be paid therefor was calculated at Rs. 87.4 crores. The banks were given the option to receive compensation in cash (in three annual instalments) or in bonds. Fresh legislation, seeking to revalidate the nationalization of banks, was passed by the Lok Sabha on 24 March, 1970. The revised compensation amount, to be paid to the nationalized banks, was determined at Rs. 87.18 crores.

Performance of Nationalized Banks. According to the studies made in May and July, 1970, the profitability of the nationalized banks as also their deposits were on the increase. 642 new banking offices -about half of these in the hitherto unbanked areas - were opened up to 31 January, 1970. 1,350 new branches were planned to be opened during 1970. Deposits of these banks went up by Rs. 278.5 crores ; the performance was likely to be better in 1970. Loans to farmers, small scale industrialists, transport operators, petty traders and some other weaker sections of the community shot up from Rs. 38.02 crores in June, 1969 to Rs. 103.06 crores in January, 1970. The nationalized banks now command 43 per cent of the total agricultural credit.

Criticism of the Measure. Nationalization of banking companies was criticized on the following points :—

1. There was hardly any need or emergency that necessitated taking over of "efficiently run" banks while the mismanaged companies could have been seized under Banking Laws (Amendment) Act, 1968. Nationalization was, therefore, prompted by political and ideological grounds.

2. The measure violates the democratic principle and right of freedom of profession. It kills individual initiative.

3. Under Social Control, the Government had enormous powers of regulation and control to achieve social objectives of credit policy. In fact, the banks were already willingly fulfilling the financial needs of the priority sectors (agriculture and small scale industry), as directed by the National Credit Council.

4. The measure will lead to excessive bureaucratization, commercially unsound practices, lethargic management and red-tapism.

5. Nationalization would adversely affect government-to-government aid and the inflow of foreign capital which preferred the private commercial banks.

The Defence of Nationalization. The following points may be offered in defence of the bank nationalization :—

1. "The banking system touches the lives of millions and has to be inspired by a larger social purpose and to subserve national priorities and objectives, such as rapid growth in agriculture, small

industries and exports, raising of employment levels, encouragement of new entrepreneurs and development of backward areas." Under Social Control, the banks, controlled by vested interests and unscrupulous bankers, had failed to serve the larger interests of the community.

2. Many private banks were controlled by certain families who ran them as family concerns. Directors drew large sums of money for speculative purposes and various shady deals.

3. Nationalization aims at removal of control of few over the public funds, provision of adequate investment in agriculture, small scale industry and exports and giving a professional bias to banking management by encouragement to new classes of entrepreneurs.

4. The nationalized banks would impart to their staff better training and more reasonable working facilities.

5. Credit needs of agriculture alone would amount to Rs. 2,300 crores by 1971. Will the privately run banks be prepared to sink so much money in this backward sector?

6. The government's directives to the nationalized banks will be confined to matters of policy only and they would be left free to work with complete professional autonomy without outside interference of any kind. The functioning of banks under nationalization will, therefore, be made more efficient and purposeful.

COMMISSIONS AND COMMITTEES

The Fifth Finance Commission. The constitution of the Fifth Finance Commission was announced on 29 Feb., 1968 by the then Finance Minister Morarji Desai. Headed by Mr. Mahavir Tyagi, it included Mr. P. C. Bhattacharya, Mr. M. Seshachalapathy, Mr. D. T. Lakshwala and Mr. V. L. Gidwan as members. The Commission was asked to make recommendations on the divisibility of taxes between the Centre and the States, the problem of overdrafts by the latter and the principles governing the grants-in-aid to the States.

The Report of the Commission ensures for the States a considerably larger share in taxes and grants. The Commission's recommendations may be summarized as follows :

1. The State's share of the Central revenues during the years 1969-70 to 1973-74 would be Rs. 4,266 crores Rs. 3,628 crores on the estimated amount of devolution of taxes and duties and Rs. 638 crores as grants-in-aid. This works out to be 50 per cent more than the amount recommended by the Fourth Finance Commission—Rs. 2,866 crores.

2. Backward areas and States with low *per capita* income will get weightage. Bihar, Gujarat, Haryana, Madhya Pradesh, Mysore, Maharashtra, Punjab and Uttar Pradesh will, after receiving the above share of Central revenues, have a total surplus of Rs. 1,270 crores. No grants-in-aid will, therefore, be given to these States.

3. The States' share of the income tax has been retained at 75 per cent, but the actual devolution during the five-year period will be much larger as advance tax collections will also be included in the divisible pool of the year of collection. The distribution of

the States share has been recommended 90 per cent on the basis of population and 10 per cent on the basis of collection as against the present 80 and 20 per cent respectively.

4. The States will continue to get 20 per cent of the net proceeds on the excise duties. Of the total share payable to the States, 80 per cent will be on population and 20 per cent on the basis of backwardness. Of the share on account of backwardness, two thirds of the amount will be given to States whose *per capita* income is below the 'all States average'. For the years 1972-73 and 1973-74, the States' share will also include the proceeds of special excise duties which have so far been kept outside the divisible pool.

5. The Commission has recommended a progressive taxation policy for the agricultural sector whose income at present is exempt from the income tax.

Irrigation Commission. The Government of India announced on 9 April, 1969, the appointment of the Irrigation Commission. Headed by Mr. Ajit Prasad Jain, a former Central Minister for Food, it includes Dr. S.R. Sen, Mr. O.P. Gupta, Dr. D.V. Reddy, Mr. N.S. Padasani and Mr. K.S.S. Murthy as members. The last Commission of this nature was set up in 1903. The present Commission's terms of reference are : (1) to examine in detail the irrigation facilities available in the chronically drought-affected areas and suggest irrigation works; (2) to examine the adequacy of water supply in major irrigation projects; (3) to examine the administrative and organizational set-up for the planning and execution of irrigation works; and (4) to suggest criteria for the sanctioning of irrigation projects.

Agricultural Commission. A 12-member Commission known as Agricultural Commission has been constituted under the Chairmanship of Mr. C. Subramaniam, a former Central Minister for Food and Agriculture. It has been asked to examine in depth the country's agricultural operations and suggest remedial measures wherever necessary.

Land Reforms Committee. In pursuance of the recommendations of the Chief Ministers in November, 1969, the Government of India have set up a high-powered committee to assist the States in the implementation of land reforms. Headed by Mr. Fakhruddin Ali Ahmed, Union Minister for Food and Agriculture, the Committee includes, as members, Mr. K. Hanumanthaiyya (Minister of Law), Dr. D.R. Gadgil (Deputy Chairman, Planning Commission), Mr. A.P. Shinde (Minister of State for Food and Agriculture), Mr. K.C. Pant (Minister of State for Home Affairs) and Mr. D. Venkatappayya (Member, Planning Commission). The Centre would like to persuade the States to lower the land ceilings and to make the family instead of the individual as the unit for fixing ceilings.

Narmada Water Dispute

The dispute over the allocation of Narmada waters among the States of Madhya Pradesh, Maharashtra, Gujarat and Rajasthan has been a source of friction for a long time. As a consequence, the 1200-crore Narmada Project is hanging fire. Rising

near Amarkantak in the Maikala range (M. P.), Narmada river, during its 800-mile long course, flows through Madhya Pradesh (700 miles) and Gujarat (100 miles). It is the largest west-flowing river in the country. Out of the 28 million acre feet of Narmada waters, the Centre has proposed to allocate 18 million acre feet to Madhya Pradesh and 10 million acre feet to Gujarat against their demands of 22.4 million and 16.6 million acre feet respectively. The Khosla Committee had suggested the construction of a dam at Navgam in Gujarat with suitable compensation to M. P. for loss of power. The committee had also recognised the claim of Rajasthan to Narmada waters. Madhya Pradesh, however, totally rejected the Khosla proposal and, while refusing to accept the downstream water claims of Gujarat and other States, has blamed the Centre for a partisan attitude on the dispute. Other States contend that rivers belong to the country as a whole and are not the monopoly of those States through which they pass. It is mainly for that reason that Rajasthan lays claim to Narmada waters for the development of her arid regions in Barmer and Jalore districts.

Cauvery Water Dispute

The former Princely State of Mysore and the Madras Province had concluded a 50-year agreement in 1924 on the sharing of waters of Cauvery river between them. Recently, Mysore undertook work on the Hemavathi, Harangi and the Kabini schemes to utilize the Cauvery water by irrigating lands in Hasan and Mandya Districts. The Tamil Nadu Government has taken strong objection to these projects for the reason that they will seriously affect rice cultivation in Tanjore District as also the industrial complex built around the Mettur Dam. Mainly on account of Tamil Nadu opposition to these schemes in contravention of the 1924 bilateral agreement, the Planning Commission has not yet approved the above schemes (though work on them had been started by Mysore some time ago). Because of the failure of efforts to bring about a negotiated settlement of the dispute, Tamil Nadu is now keen to have the dispute referred to a tribunal under the Inter-State Water Dispute Act, 1968 but Mysore appears keen to settle the issue by bilateral negotiations.

Monopolies Commission

The Commission on Monopolies and the Restrictive Trade policies was constituted under the chairmanship of Mr. A. Alagirisamy, a Judge of the Madras High Court. Other members of the panel are Dr. H.K. Paranjpe and Mr. D. Subramaniam.

Ceiling on Urban Property

The Union Cabinet has decided to put a ceiling on urban property at Rs. 5 lakh per head. The State Governments which will enact necessary legislation have already been addressed on the subject by the Central Government and their replies are awaited. The property in excess to the upper limit will, according to this proposal, be compulsorily acquired by the government or alternatively an additional levy will be imposed thereon.

POLITICAL AFFAIRS

The Fourth General Elections*—1967

In February, 1967, India went to the polls for the fourth time after the inauguration of the new Constitution in 1950. Earlier elections were held in 1952, 1957 and 1962. The total voting strength for the fourth election was estimated at over 249 million, as against 227 million in 1962. According to the polling statistics, about 60 per cent of the electorate exercised their franchise.

The strength of the Lok Sabha increased from 508 in 1962 to 521 in 1967, that of the State Assemblies from 3,229 to 3,383 and of the Union Territories from 176 to 180 respectively. The number of seats reserved for the various categories of people also increased as follows:—

Table 1

| Category of People | Lok Sabha | | Assemblies | | Union Territories | |
|--------------------|-----------|----|------------|-----|-------------------|----|
| | From | To | From | To | From | To |
| Scheduled Caste† | 76 | 77 | 472 | 481 | 19 | 22 |
| Scheduled Tribes | 31 | 37 | 222 | 226 | 2 | 21 |

Immediately after the general elections, the comparative party position in the Lok Sabha for the four general elections was as follows:—

Table 2
Lok Sabha

| Party | 1952 | 1957 | 1962 | 1967 |
|---------------------------------|------|------|------|------------------------------|
| Congress | 364 | 390 | 361 | 281*† |
| C. P. I. | 16 | 27 | 29 | 41 ^o _o |
| P.S.P., S.P., S.S.P., K.M.P. P. | 21 | 19 | 18 | 36 ^(a) |
| Jana Sangh | 3 | 4 | 14 | 35 |
| Swatantra Party | — | — | 18 | 44 |
| D.M.K. | — | — | 7 | 25 |
| Other Parties | 45 | 34 | 20 | 22 |
| Independents | 41 | 20 | 27 | 29 |
| | 490 | 494 | 494 | 513 |

% C. P. I. (Rightist)—22 @Samyukta Socialist Party (SSP)—23
C. P. I. (Marxist)—19 Praja Socialist Party (PSP) —13

The Politics of Defection

After the 1967 elections, the Congress came to power at the Centre and in the States excepting Kerala, Madras, Bihar, West Bengal and Orissa. By the close of March, 1967, Haryana had been lost to the opposition and Rajasthan was put under the President's rule. By the middle of the year, non-Congress Ministries were functioning in the Punjab, U. P. and M. P. but Rajasthan had come back to the Congress fold. The Congress was, however, out of office in the region between Amritsar and Calcutta and comprising States of Punjab, Haryana, Union Territory of Delhi, U. P. M. P., Bihar and West Bengal. By November, Rao Ministry in

* The "multi-State" or national parties, recognized by the Election Commission, are the Congress, C.P.I. (M), C.P.I. (R), S.S.P., P.S.P., 'Swatantra Party and the Jana Sangh.

**After the split in Congress, about 50 members sit in opposition at present.

Haryana had been pulled down, Gurnam Singh's United Front Ministry was replaced by Lachhman Singh Gill's Janta Govt. (backed by the Congress), and Ajoy Ministry in West Bengal had been dismissed and replaced by the one under Dr. P. C. Ghosh (with Congress backing). By August, 1968, Punjab, U. P., Bihar and West Bengal had been put under President's rule (due to ministerial instability) but after mid-term poll in May, 1968, Haryana had come under Congress rule. The SVD Ministry of G. N. Singh in M. P. had remained shaky throughout but it withstood stresses and strains and tried to pull together in the face of the threat of Congress returning to power. The political uncertainty and ministerial instability were the contribution of a set of ambitious legislators, who changed sides for pelf and power and whom the then Home Minister Chavan christened "Aya Rams and Gaya Rams".

Defection Statistics. According to a study carried out by the Home Ministry, within a year of the elections, there had occurred 438 defections out of total State assembly membership of 3340. Of these, 139 defected from non-Congress parties to the Congress or Congress-supported governments and 64 of them were rewarded with ministerial appointments; 175 Congressmen turned defectors and 52 of them were accepted for various appointments; 157 of the 376 returned to State Assemblies as independents were involved in ministry making and breaking. Those of the independents who joined Congress in this manner numbered 73. Defections affected all parties except the left communists whose strength of 128 remained unchanged. Every case of collapse of government after the 1967 elections was the result of defections.

Remedial Measures. While defections undoubtedly lead to political instability and administrative chaos, its complete eradication involves such fundamental issues as liberty of thought, action and conscience, the right to differ and to unfettered association. Defectors cannot be disqualified from the membership of the legislatures nor can they be compelled to seek reelection on defection. Similar is the position with regard to floor crossing and other political vacillations.

Realizing the gravity of situation, the Lok Sabha on 8 Dec., 1967 appointed a high-powered all-party Committee under the Chairmanship of Mr. Y.B. Chavan "to consider the problem of legislators changing their allegiance from one party to another and their frequent crossing of the floor in all its aspects and make recommendations in this regard". After good deal of deliberations and weighing the pros and cons of various complicating issues, the Committee decided: (1) A limit should be put on the strength of the Council of Ministers, Deputy Ministers and Parliamentary Secretaries at the Centre and in the States. The limit put forward by the Committee is 10 per cent of the total membership of the Lower House for States with unicameral legislature and 11 per cent for those with the bicameral one. (2) The Prime Minister and the Chief Minister should belong to the Lower House. (3) There should be provision to debar the defectors from holding

office for a prescribed period—say one year or so. (4) The political parties should evolve a code of conduct with regard to defections which should be rigorously adhered to. According to indications available, the Government may have a bill passed on defections before next general elections in 1972.

THE MINI GENERAL ELECTION (1969)

For the first time in India's 21-year span of parliamentary life as an independent country and after two years of her fourth general election in 1967, a mid-term election of such magnitude was held in February, 1969. The mid-term poll commanded an electorate of over 101 million embracing northern and north-eastern regions of the country, namely, the Punjab, U.P., Bihar and West Bengal. Simultaneously, the second general election was conducted in Nagaland. 1,127 assembly seats were contested by 6,500 candidates of whom 125 were women. Seven national political parties—the Congress, the Jana Sangh, Swatantra, C.P.I. (R), C.P.I. (M), S.S.P. and P.S.P. were in the field. Of the 40 State-based parties, the most prominent were the Akali Dal (Punjab), Bhartiya Kranti Dal (Bihar and U.P.), Janta Party and the Lok Tantric Congress (Bihar) and the Bangla Congress, the Lok Dal and Indian National Democratic Party (West Bengal). The Akali Dal and the Jana Sangh had an electoral alliance in the Punjab, the Bangla Congress, the two factions of Communists and nine other parties forged a United Front in West Bengal, and the S.S.P., the P.S.P. and the Lok Tantric Congress were aligned in Bihar. Jana Sangh fought the polls in U.P. without any alignment. Ten former Chief Ministers and 186 former Ministers were in the field. The mid-term polls in the four States cost the exchequer a sum of Rs. 3.5 crores.

The Election Results. The polling started in 150 constituencies of U.P. on 5 February, followed on 9 February by elections in Punjab, Bihar and West Bengal where the polling was completed in one day. By 20 February, the elections were over. The final party position immediately after the elections in the States was as given in Table 3.

Table 3
(Bracketed figures relate to 1967 elections)

| <i>Party</i> | <i>Punjab</i> | <i>U. P.</i> | <i>Bihar</i> | <i>West Bengal</i> |
|----------------------------|---------------|--------------|--------------|--------------------|
| Congress | 38 (48) | 211* (198) | 118* (128) | 55* (127) |
| C. P. I. (R) | 4 (5) | 4 (14) | 25 (24) | 30 (16) |
| C. P. I. (M) | 2 (3) | 1 (1) | 3 (4) | 80 (43) |
| Jana Sangh | 8 (9) | 49 (97) | 34 (26) | 0 (1) |
| P.S.P. | 1 (0) | 3 (11) | 17 (18) | 5 (7) |
| S.S.P. | 2 (1) | 33 (43) | 52 (67) | 9 (7) |
| Swatantra | 1 (0) | 5 (12) | 3 (4) | 0 (1) |
| Akali Dal | 43 (26) | — | — | — |
| Bhartiya Kranti Dal | — | 98 | — | — |
| Others and Independents | 5 | 21 | 66 | 101 |
| | 104 | 425 | 318 | 280 |

*The Congress Party stands split in two groups.

Second General Election in Nagaland

Nagaland's Second General Election was held from 6 to 10 February, 1969. The State Assembly has 52 seats - 40 elected on adult franchise and 12 nominated from the Tuensang District. Nagaland National Organisation (NNO), the State's ruling party, contested all the 40 seats whereas the United Front fielded its candidates for 30 seats. A good number of independents (numbering 74) also participated in the election. About 80 per cent of the voters exercised their franchise. Of the 40 elected seats, 22 were won by the Naga National Organisation (NNO), 10 by the United Front and 8 by the Independents. 7 of the Independents joined the NNO raising its strength to 29. The 12 associate members from the Tuensang District also aligned themselves with the NNO.

Mr. Hokishe Sema, Finance Minister in the outgoing Cabinet headed by Mr. T. N. Angami, was elected leader of the new NNO legislature party. A 16-member Nagaland Ministry, with Mr. Hokishe Sema as Chief Minister, assumed office on 22 February, 1969.

Pondicherry

Due to ministerial instability, President's rule was clamped on the territory on 18 September, 1968. In the elections held in 1969, the Dravida Munnetra Kazhagam (DMK) emerged as the largest party in the 30-member House. On 17 March, 1969, a five-member DMK-Communist alliance Ministry, headed by Mr. Farook Maricar, was sworn in. Simultaneously, the Presidential Rule was revoked.

Death of the President

President Zakir Husain Dies. Dr. Zakir Husain, President of India since May, 1967 and a former Vice-President, suddenly expired on 3 May, 1969. The death came after a severe heart attack. He was the first Indian President who died while in office. During his terms as Vice-President and President of India, Dr. Zakir Husain was greatly respected as an elder statesman. A scholar by training and temperament, he was one of the greatest educationists of his time. For his qualities of head and heart, he was deeply mourned by the plebeian and the prince alike.

The Acting President. Within hours of the death of Dr. Zakir Husain, Shri V. V. Giri, the Vice-President, was sworn in as the Acting President. While the position of the Indian Vice-President is largely similar to that of his American counterpart, there is one important difference between the two. If the office of the President of United States falls vacant on account of the death or removal of the incumbent, the Vice-President takes over as a full-fledged President for the remaining period of the term. However, the Vice-President of India, under similar circumstances, only acts as President until a new President is elected and enters upon his office. Under the Indian Constitution, the new President must be elected within six months of the death or removal by impeachment of the President.

The Constitutional Lacuna. The death of Dr. Zakir Husain laid bare a lacuna in the Indian Constitution. It was revealed that there was no definite provision in the Constitution to meet a contingency when vacancies simultaneously occur in the office of the President and the Vice-President or when the latter, for some reasons, is not available in the event of death or removal by impeachment of the former. To provide for such a contingency, a government Bill—The President (Discharge of Functions) Bill—was rushed through the two Houses of the Parliament. It added a new clause to Article 70 of the Constitution laying down that in the event of the death of the President and the Vice-President or the Vice-President not being available to act as President, the Chief Justice of India or in his absence senior-most Judge of the Supreme Court shall be sworn in and shall discharge all functions of the President.

Election of the President and the Vice-President

On the death of Dr. Zakir Husain on 3 May, 1969, Vice-President V.V. Giri was sworn in as the Acting President. As the Acting President could, under the Constitution, continue as such for a maximum period of six months, the Chief Election Commissioner finalized arrangements for the Presidential election to take place on 16 August. In the meantime, Mr. V.V. Giri announced his plans to contest the Presidential election as an independent candidate and resigned his office as the Vice-President (as well as the Acting President). Both the offices of the President and the Vice-President were now vacant. In accordance with the provisions of The President (Discharge of Functions) Act, 1969, Mr. Mohammad Hidayatullah, Chief Justice of India, was sworn in on 20 July to discharge the functions of the President till an elected President took over in August.

The Presidential Candidates. The Congress Parliamentary Board, meeting at Bangalore in July, decided to put up Mr. Sanjiva Reddy. Speaker Lok Sabha, as the Party candidate for Presidential election. Other fourteen candidates in the field were : Dr. C. D. Deshmukh (Jana Sangh-Swatantra), Messrs. V.V. Giri, Maharani Gurcharan Kaur (of Nabha), Hari Ram, Khubi Ram, Babulal Mag, P.N. Rajabhoj, Chandra Datt Senani, S.M. Aniruddh, Bhagmal, K.K. Chatterjee, Santokh Singh Kachhwaha, Dr. R.T. Chakor and R.P. Vyas.

Electoral College. The electoral college for the President consists of the elected members of both Houses of Parliament and the Legislative Assemblies of the States. Out of the 4,137 electors (votes value 861,695) on the eve of the election, the Congress commanded 1637 electors (votes value 451,535) or 52.4 per cent of the total votes. Rest of the votes were commanded by Swatantra Party (6.1%), Jana Sangh (6%), PSP (2.3%), BKD (2.5%) and others (30.7%).

System of Choosing. The Presidential voting is in accordance with the system of proportional representation by means of the single transferable vote. It is based on the principles of uniformity in the scale of representation of different States and similarity in

their status. The votes are weighted to reflect the population that the members represent. The value of a vote of a Member of a State Legislative Assembly is determined this way: the total population of a State is divided by the total number of Members of its Legislative Assembly; the quotient is further divided by 1000; the second quotient is the value of a vote of that State; a remainder less than 500 is ignored but over 500 is taken as a multiple of 1000. By this method, the total value of all votes of States is computed. A similar value in voting is commanded by the total number of Members of Lok Sabha and Rajya Sabha. In the present Presidential election, the value of a State legislator's vote ranged from 7 in case of Nagaland to 174 in the case of U.P. The total value of States votes was computed at 430,848. The 748 members of both Houses of Parliament commanded a similar vote value, each vote valued at 576.

The process of counting of votes by which the weighted votes are transferred according to a set pattern is equally complicated. By this process, a candidate securing more than 50 per cent of the votes cast is declared elected. If any of the Presidential candidates does not secure a fixed minimum value in votes (7,501 vote value fixed in the present context), he is automatically eliminated on the first count. If none of the remaining candidates secures more than 50 per cent of the total votes polled, the process of transfer begins. Each voter has to indicate his preferences in order. Of the candidates who have secured the qualifying number of votes, the last one is eliminated and the second preferences indicated by his voters are added to the first preference votes of the remaining candidates. If that again fails to give the required majority to a single candidate, the process is continued till one of them secures the percentage and is thus declared elected. The doctrine of proportional representation justifies this outcome on the reasoning that the successful candidate is preferred by a numerically larger number of electors than the rest of the candidates.

Giri Elected President. The polling was held at New Delhi and the State Capitals on 16 August. The counting was done on 20 August when ballot boxes from all the centres were received in New Delhi. Result of the first count revealed that except Messrs V.V. Giri, N. Sanjiva Reddy and C.D. Deshmukh, no other Presidential candidate had secured the minimum vote value of 7,501. Such candidates were thus automatically eliminated. In fact, five of them did not get any vote.

Of the 17 States, Mr. Giri led in 11, including 4 Congress States. In the Parliament, Mr. Giri secured 359 ballots as against 268 won by Mr. Reddy and 101 by Dr C.D. Deshmukh in the first count. But, of the three candidates who secured qualifying number of votes, no one possessed more than 50 per cent of the votes polled. In accordance with the process of elimination, Dr. C.D. Deshmukh, the lowest among the qualified, was then eliminated and his second preference votes were added to the first preference votes of the two other candidates. Mr. V.V. Giri, the 75-year old

trade union leader, who, having resigned earlier, was contesting as an independent candidate, secured 420,077 votes and was declared elected in a photo-finish. He defeated his nearest rival, Mr. N. Sanjiva Reddy, the Congress nominee, by a margin of 14,650 votes.

Mr. V.V. Giri was sworn in as the fourth Head of the State on 24 August, 1969.

Giri's Election Challenged. Mr. Abdul Ghani Dar and Mr. N. Srirama Reddy challenged in the Supreme Court the election of Mr. V.V. Giri as President. The main allegation was that the supporters of Mr. Giri had, with his consent, circulated a pamphlet casting aspersions on the character of Mr. Reddy, the other Presidential candidate, and unduly influencing the minds of the voters against him (Mr. Reddy). The Supreme Court, however, dismissed the petition. The case made legal history as Mr. Giri himself appeared before the Court to give evidence. 116 witnesses including 55 for the petitioners, were examined whose evidence ran into 1500 pages.

Election of the Vice-President. Mr. G.S. Pathak, the Governor of Mysore, was elected Vice-President of India on 30 August, 1969. Mr. Pathak secured 400 votes as against 169 won by Mr. J.S. Pillai and 156 by Mr. H.V. Kamath. 33 Members abstained from voting. The electoral college for the Vice-President consists of the Members of both Houses of Parliament. Mr. Pathak was sworn in on 31 August, 1969.

Election of the Speaker and Deputy Speaker of Lok Sabha

Mr. Gurdial Singh Dhillon, the Congress nominee, was unanimously elected Speaker of the Lok Sabha on 8 August, 1969. He is a former Speaker of the Punjab Vidhan Sabha. In December, 1969, Mr. G.G. Swell was elected Deputy Speaker.

Crisis in the Congress Party

AICC Session at Bangalore. During the second week of July, 1969 the Congress Working Committee meeting at Bangalore, was confronted with a 1000-word Note on economic policy from Prime Minister Indira Gandhi. The Note made a strong and forceful case for land reforms, ceiling on urban properties and incomes, nationalization of banks and other financial institutions, industrial licensing policy to curb monopolistic trends and a planned programme to cope with the problem of educated unemployment. The discussion on these issues revealed a sharp cleavage in the Congress leadership. However, the Working Committee accepted the new economic policy envisaging, among other things, a stricter control on banks or their nationalization, if necessary, and directed the Government to implement these recommendations.

The second issue on which the leadership found itself divided was the selection of Congress candidate for Presidential election. Press reports indicated that the Prime Minister suggested the name of Mr. Jagjivan Ram but the Parliamentary Board, by a majority decision, chose the Lok Sabha Speaker Mr. N. Sanjiva Reddy as the Party candidate for Presidentship.

Morarji Desai Resigns. In a dramatic move on 16 July, 1969 Prime Minister Indira Gandhi took over the Finance Portfolio from Mr. Morarji Desai but requested him to continue as Deputy Prime Minister. Mr. Desai instead offered his resignation which was accepted on 19 July. Later, the Prime Minister explained that taking over of Finance Portfolio by her was necessary to implement the Party directive on economic policy based on her own Note. A section of the Congress leadership was conspicuous by its opposition to the Prime Minister's action divesting Mr. Desai of his Portfolio.

Demand for 'free vote' in the Presidential Election. Messrs. Jagjivan Ram and Fakhruddin Ali Ahmed, the two senior Central Cabinet Ministers, wrote to Congress President Mr. S. Nijalingappa, protesting over the latter's meetings with leaders of Swatantra Party and Jana Sangh to seek their support for Mr. Sanjiva Reddy, the official Congress candidate. These contacts had given currency to wild rumours about a kind of secret deal. The two Cabinet Ministers also demanded freedom to vote in the Presidential election. In the meantime, the Congress President asked the Prime Minister to have a whip issued directing all Congress Members to vote for the Party candidate. The Prime Minister, in her reply, defended her Cabinet colleagues and supported their demand for free vote in view of a similar demand by a large number of Congress Members and because of the basic issues involved. On 18 August, two days after the Presidential poll, Congress President S. Nijalingappa issued notice to Mrs. Indira Gandhi, Mr. Jagjivan Ram and Mr. Fakhruddin Ali Ahmed to explain their attitude in the Presidential election.

The Unity Move. With the defeat of Mr. N. Sanjiva Reddy, the Congress nominee for the Presidential election, the split in the Party widened with the Prime Minister and her supporters pulling on one side and an influential section of the Congress leadership on the other. A special session of the Congress Working Committee and the Parliamentary Board was convened in New Delhi to take stock of the situation and to consider action in the matter of "indiscipline" which led to the defeat of the Party nominee in the Presidential election. However, some leaders including Mr. Y. B. Chavan succeeded in evolving a compromise solution of the issues involved and after the passage of a 'Unity Resolution', the crisis appeared to blow over.

The Final Split. In spite of their promise to abide by the Party's Unity Resolution, the two Congress groups continued to drift apart. A request from six Working Committee Members (including the Prime Minister) for an early meeting of the Congress Working Committee as also an AICC Session, was summarily rejected by Congress President Mr. S. Nijalingappa. On 30 Oct., 1969 the Congress President charge-sheeted the Prime Minister and simultaneously dropped Messrs. C. Subramaniam and Fakhruddin Ali Ahmed from the Working Committee. The following day, Prime Minister's supporters decided to call a meeting of the AICC on 22-23 November. Mr. Nijalingappa replied by expelling

Mrs. Gandhi from the Congress for her alleged complicity in convening an unauthorized meeting of the AICC. He also directed the Congress Party in the Parliament to elect a new leader. The next day, 330 of the 429 Congress MPs. reaffirmed their confidence in the leadership of Mrs. Gandhi. Those opposed to the Prime Minister formed a separate group under the Chairmanship of Mr. Morarji Desai, with Mr. Ram Subhag Singh and Mr. S. N. Sharma as leaders of the groups in Lok Sabha and Rajya Sabha respectively. Simultaneously the group decided to sit in opposition.

The requisitioned meeting of the AICC (22-23 Nov.), attended by 501 of the 803 delegates, rejected all charges levelled against the Prime Minister, removed Mr. Nijalingappa from the Congress Presidency and simultaneously elected Mr. C. Subramaniam as the Party's interim President. Later, Mr. Jagjivan Ram, the present Cabinet Minister for Defence, was unanimously elected President of the Congress, and was formally installed at the Plenary Session of the AICC at Bombay on 26 December, 1969. Mr. S. Nijalingappa and his supporters held their own Plenary Session at Ahmedabad from 19 to 21 December. Four Ministers—Messrs. Gurupadaswamy, Muthyal Rao, Jagannath Pahadia and Parimal Ghosh—were dropped by the Prime Minister. Three Cabinet Ministers—Messrs. Ram Subhag Singh, Jaisukh Lal Hathi and C. M. Poonacha resigned from the Cabinet. The split was now complete.

The Ten-Point Resolution. The AICC ten-point resolution of 1967 envisaged :

1. Nationalisation of general insurance ; 2. Social control of the banking institutions ; 3. State trading in import and export trade ; 4. State trading in foodgrains ; 5. Expansion of co-operatives in the processing and manufacturing industries ; 6. Effective steps to curb monopolies and concentration of economic power in the light of the Monopolies Commission report ; 7. Provision of minimum necessities of life to the people ; 8. Curbs on unearned income on account of appreciation of land value in urban areas ; 9. Extensive programme of rural works and implementation of land reforms ; 10. Removal of privileges incongruous to the concept of democracy, enjoyed by the ex-rulers.

“The Grand Alliance”

The Congress Party had split reportedly to consolidate all progressive forces that desired to fashion an organization which would present a picture of better cohesion and purposefulness. The Congress group, led by Mr. Jagjivan Ram, declared to transform itself into “a militant social democratic party, radical in inspiration and progressive in purpose”. The group, led by Congress President Nijalingappa laid stress on “the consolidation of national democratic forces to repel the threat of communist subversion and communal virus”.

Polarization of Political Forces. The division in the Congress, as some claimed, came about on ideological grounds. The so-called socialists, comparatively young and energetic, rebelled against the so-called conservative, aged leaders. The

New Congress radicals sought support among the socialist forces outside the Congress whereas the Old Congress leaders leaned heavily towards the Swatantra Party, Jana Sangh and SSP. A realignment of political forces appeared to be taking root. Some Old Congress leaders came openly for a grand alliance of "democratic forces". The Jana Sangh, in a resolution in July, 1970, approved of a political combine. Some Swatantra leaders expressed their readiness for a complete political merger. At times it appeared that polarization of forces was round the corner.

The hopes of a grand alliance of major parties, however, dimmed for the simple reason that the two sets of forces were not prepared to move to the extremities. The New Congress could hardly afford to assume a posture of extreme radicalism, indistinguishable from the communists'. The party appeared in the centre of the road when it resolved to "fight forces of right reaction and left adventurism." Nor could Old Congress shed its "socialism" and its progressive traditions to appear akin to rightist Swatantra or to Jana Sangh. What they have been able to achieve is a kind of a working arrangement among the so-called leftist forces on one side and so called rightist forces on the other to cooperate in the Parliament without losing their individual political identity.

POLITICAL DEVELOPMENTS IN THE STATES

Andhra Pradesh

Demand for Separate Telengana State. On the eve of creation of Andhra Pradesh about 14 years ago, a "gentleman's agreement" was arrived at between the Congress leaders of Andhra and Telengana regions, incorporating certain safeguards for the Telengana areas. The present separatist movement is a reaction to the alleged "non-implementation of these safeguards for the Telengana areas". The grievances, as put forward by the protagonists of the separatist movement, are :

(i) Recruitment of employees to the Telangana posts has not been conducted as per the "Mulki Rules" (ii) Telengana surpluses amounting to Rs. 30 to 70 crores have not been utilized for the development of the region. (iii) Telengana people are not happy over the Andhra High Court's decision holding reservation of posts in autonomous bodies for Telengana region as beyond the purview of the rules, framed by the Government. (The Supreme Court had recently declared *ultra vires* the Andhra order prescribing conditions of residence for appointments as per Mulki Employment Rules.)

Large scale disturbances were organized in January, 1969. Scores of trains were stopped and damaged and other public property was harmed. The second phase of the Telengana agitation started with extensive violence and arson on 2 June. The twin cities of Hyderabad and Secunderabad appeared beleaguered. Curfew was imposed in the two cities as also elsewhere but its defiance by the agitators resulted in police firings, killing 25 persons and injuring 50, some of them seriously, in four days. Prime

Minister Indira Gandhi made an air-dash to Hyderabad on 4 June to study the situation on the spot and to help calm down passions.

The Prime Minister announced formation of five committees to deal with the Telengana issue—including the one headed by a Judge of the Supreme Court and comprising in addition an eminent economist and a representative of the Comptroller and Auditor General of India. It was to examine and determine the surpluses which were expected to have been spent on the development of the Telengana region. Mrs. Gandhi also assured the Telengana leaders of the government's intention to devise constitutional safeguards in the matter of public appointments in favour of Telengana as also some political safeguards, embodied in the "gentleman's agreement". At the same time, the Centre appeared to agree with Chief Minister Brahmananda Reddy that a workable solution was possible within the framework of integrated Andhra Pradesh and the pre-requisite to such a mutually acceptable solution was the suspension of agitation and return of normalcy in the State. On 16 June, 1969, the Congress President Mr. S. Nijalingappa categorically rejected the possibility of the vivisection of Andhra Pradesh as also the stepping down of Mr. Brahmananda Reddy. What the situation required, he said, was the implementation of Telengana safeguards of 1956 "gentleman's agreement" and some political adjustments including the one that the post of Chief Minister should alternate between the Andhra and Telengana regions. In February, 1970 the government allowed enhanced powers for the Telengana Regional Committee and an additional grant of Rs. 45 crores during the Fourth Five Year Plan.

Bihar

The Ministry-Making. After the mid-term poll in February, 1969, a Congress-dominated coalition Ministry was formed in Bihar. It resigned on 20 June after remaining in office for 115 days, and was succeeded on 22 June by the Ministry presided over by Mr. Bhola Paswan Shastri. This Ministry lasted just for 10 days and resigned on 1 July when President's rule was imposed in the State. The Assembly was, however, kept in suspended animation.

By February, 1970, Mr. Daroga Rai, who headed the New Congress legislature party (84 members) was able to muster majority support (173 members in a House of 316) by forging alliance with the C.P.I., S.S.P., Shoshit Dal, B.K.D. and Jharkhand Party on the basis of a 35-point minimum programme. According to Mr. Rai, the C.P.I. and P.S.P. were to support the government from outside. Having satisfied that Mr. Rai carried majority support with him, the Governor invited him to form a government. A three-member coalition Ministry, headed by Mr. Daroga Prasad Rai, was sworn in on 16 February, 1970. The President's rule, that had lasted for seven months and 12 days, was withdrawn simultaneously. Mr. Rai formed the seventh government after the last general elections (1967) and the third after the mid-term poll (1969). 11 Ministers and 6 Ministers of

State were added to the Ministry a fortnight later. At the time of going to press in December, 1970, the Rai Ministry was in trouble on account of threatened withdrawal of support of some constituents of the coalition.

Aiyar Commission Report. Appointed by the first United Front Ministry in October, 1967, this Commission, headed by Mr. T.L. Venkatarama Aiyar, was asked to inquire into charges of corruption etc. levelled against Mr. K.B. Sahay, a former Congress Chief Minister and his Ministers. In its 1260-page Report, released to the press in February, 1970, the Commission found former Chief Minister K.B. Sahay and all the six Congress Ministers, whose conduct was inquired into, guilty of favouritism and abuse of power.

Jammu and Kashmir

The Kashmir Commission Report. The Report of the Jammu and Kashmir Commission of Inquiry, headed by Dr. P.B. Gajendragadkar and including Mr. B.F.H. Iyengar and Mr. Shankar Prasad as members, was made public on 19 January, 1969. The Commission's recommendations are: (i) It is not advisable at present to abrogate Article 370 of the Indian Constitution conferring special status on Jammu and Kashmir. Its repeal should be left to the wishes of the people of the State. (ii) The demand for greater regional autonomy for either Jammu or Kashmir region should not be accepted. (iii) The accession of the State to India was final and irrevocable. (iv) There should be a full-fledged university each for Jammu and Srinagar. A medical college and an engineering college should be established at Jammu. (v) Though the State government has not deliberately neglected Jammu and Ladakh regions, yet these areas should receive more attention for development schemes. (vi) A statutory State Development Board, headed by the Chief Minister, and statutory Regional Development Boards for Kashmir, Ladakh and Jammu should be constituted. (vii) Recruitment of Hindus in service is on the decline but is still more than what is due to them on the basis of population. That of Muslims on the increase but is still less than their share on population basis. The annual intake of Buddhists had shown a fall. (viii) Reservation of seats for backward classes should not exceed 50 per cent of the seats. (ix) Problems of rehabilitation of refugees from Pakistan-occupied Kashmir should be accorded most sympathetic consideration.

Kerala

Mallapuram Formed. A new Muslim-majority district of Mallapuram, comprising two taluks of Kozhikode district and two of the Palghat district excluding some areas, had been formed with effect from 16 June, 1969 with its headquarters at Mallapuram. The new district has an area of 1513 sq. miles and a population of 14 lakhs. It comprises 92 Panchayats and 13 blocks. Some opposition leaders of Kerala have dubbed the new district as "Moplastan". The opposition parties at that time had alleged that the district was formed by Mr. E.M.S. Namboodiripad to

appears the Muslim League into continuing to support his coalition government.

New Ministry. The UF coalition Ministry headed by Mr. E.M.S. Namboodiripad developed cracks in 1969. The EMS government came to a breaking point when six non-Marxist Ministers resigned on 17 October. The Ministry was defeated on the floor of the House on 24 October, 1969 and bowed out of office the same day. On 1 November, a new coalition Ministry, headed by Mr. C. Achutha Menon, was sworn in.

Mid Term Poll. The coalition Ministry of Mr. Menon resigned on 1 August, 1970 and simultaneously recommended the dissolution of the Assembly so that the parties should seek fresh mandate from the people. Mid-term poll was conducted in the State on 17 September. In all, 505 candidates contested the 133 seats. As the elections drew near, three main contesting fronts emerged : People's Democratic Front or "CPM Front" led by Marxists, "Mini Front" led by CPI with the support of the New Congress and the Democratic Front of the Kerala Congress and the Old Congress.

On declaration of results, the New Congress and its ally, the Mini Front (CPI, Muslim League, RSP and PSP) emerged with a three-seat majority in the 133-member Assembly. New Congress secured 32 seats (the highest that any single party did) followed by Mini Front : 37, CPM Front : 41, Kerala Congress 12 and Independents 11. The Old Congress failed to secure a single seat. Mr. Achutha Menon (CPI) was elected leader of the Mini Front parties on 21 September, 1970. After the New Congress legislature party's promise of support to Mini Front parties, the leader of the Front, Mr. Achutha Menon was invited to form a government. The Mini Front coalition Ministry was sworn in on 4 October, 1970. New Congress, however, chose not to join the government.

The Nuns Issue. In August, 1970 London's 'Sunday Times' reported that hundreds of Catholic girls were recruited from Kerala and "sold" to some European countries where they were shabily treated and made to work under hard conditions. Some of them were reported to be unhappy but were being prevented from returning home. Subsequently, it emerged that Father Puthenpura of Kerala was responsible for making arrangements for the girls to leave for the European countries. The Times charges were denied by the Kerala Catholic Church as well as the Vatican. The matter was also raised in the Rajya Sabha, which was assured by Foreign Minister Swaran Singh that the Government would conduct thorough enquiries into the matter and would adopt punitive measures, if considered necessary.

Punjab

The Chandigarh Issue. For about three years after the reorganization of Punjab and the Shah Commission's majority decision awarding Chandigarh to Haryana, the Punjab-Haryana dispute over the possession of Chandigarh defied a compromise solution. Unfortunately the issue was allowed to stalemate and two States drifted apart till they reached a stage where it became

impossible to take a decision dispassionately and, at the same time, dangerous to delay it any longer. High drama was injected into this complicated situation with the Akali leader Sant Fateh Singh's announcement in December, 1969 to go on a fast on 26 January, 1970—the Republic Day—and to immolate himself on 1 February if the Central Government did not by that date announce handing over of Chandigarh to the Punjab.

The Centre now appeared seized with the problem with utmost urgency. It kept continual contact with the State's leaders and, in the process, evolved three solutions e.g., (i) division of Chandigarh between Punjab and Haryana in the ratio of 60 : 40 ; (ii) awarding Chandigarh to Punjab but the latter agreeing to pay adequate money to Haryana to build a new capital ; and (iii) to hand over Chandigarh to Punjab and make good this loss to Haryana by awarding her the so-called Hindi pockets of Fazilka Tehsil. In the meantime, the Sant went on fast on the Republic Day. No amount of persuasion could prevent him from his "irrevocable resolve" to secure Chandigarh for the Punjab.

The Union Government announced its award on 29 January, 1970 which was as follows:—

1. Whole of Chandigarh town including the lake will go to the Punjab.

2. A part of Fazilka Tehsil and old Abohar in Punjab will be transferred to Haryana.

3. A furlong-wide corridor through Punjab and Rajasthan territories would be given to Haryana to provide for contiguity between the transferred areas and Haryana.

4. Chandigarh would remain a Union Territory for five years to enable Haryana to build her capital for which the Central Government would provide loans and aid worth Rs. 20 crores.

5. A Commission would be set up to go into the territorial claims of the States for the adjustment of the existing inter-State boundaries. Transfer of Fazilka and all other areas, decided upon by the Commission, would be effected simultaneously.

The Central decision on Chandigarh met with mixed reaction in Punjab and Haryana. Sant Fateh Singh terminated his fast as his demand to secure Chandigarh for Punjab had been squarely met. In Haryana, the opposition political groups engineered widespread disturbances which were, however, put down with a heavy hand.

New Government in Punjab. In March, 1970, Giani Bhupinder Singh, a prominent leader of the Akali Dal (Master Group) was elected to the Rajya Sabha from the Punjab Vidhan Sabha constituency, defeating the official Sant Akali nominee Jathedar Santokh Singh. As Sant Fateh Singh had selected the party's nominee without consulting Chief Minister Gurnam Singh, the latter, it was suspected, supported the candidature of Giani Bhupinder Singh against the official Sant Akali nominee. This appeared to have enraged a majority of Akali MLAs as well as the Jana Sangh legislators who, in a dramatic move, disowned Mr. Gurnam

Singh and combined to defeat him on the floor of the House on 25 March. His Ministry resigned the same day.

In the meanwhile, the Akali legislators elected Mr. Parkash Singh Badal, Minister for Development in the Gurnam Singh Cabinet, as their new leader who was ultimately invited by the Governor to form a government. The Akali-Jana Sangh coalition government headed by Mr. Badal was sworn in on 27 March but within three months, the Jana Sangh decided to quit the coalition on the issue of extending the jurisdiction of Guru Nanak University at Amritsar. Reduced to a minority, Mr. Badal was advised by the Governor to seek a vote of confidence. The Chief Minister later managed to secure Congress support in the Assembly and also a vote of confidence from the House on 24 July, 1970.

Tamil Nadu

The New Ministry. Chief Minister Annadurai passed away on 3 February, 1969. A week later, Mr. Karunanidhi, the Public Works Minister in Annadurai Ministry, was elected leader of the DMK legislative party and was sworn in as Chief Minister on 10 February, 1969.

The "Flag" Issue. In August, 1970, Chief Minister Karunanidhi was reported to have approached the Central Government to agree to Tamil Nadu having a separate flag of its own. As described in the press note later, the State flag would have the same colour combination as the National Flag with State emblem "Gopuram" instead of **Chakra**. The National Flag would also be carried as an inset in the top left corner. It was explained that the State flag was not to replace the National Flag but to supplement it. Both the Flags were proposed to be used side by side. The ruling DMK Party later assured the people that it was not, in any manner, advocating or planning secession from rest of the country.

The Autonomy Move. The DMK-sponsored State Autonomy conference, also attended by a few invitees from other States, demanded of the Centre to grant autonomy to the States. Decentralization of power, it was claimed, would further strengthen the integrity and security of the country. DMK President and State Chief Minister Karunanidhi explained that what his party wanted was not complete autonomy but more powers under the Constitution. In his scheme of things, the Centre should be left with only the subjects like defence, external affairs and communications.

Uttar Pradesh

After the mid-term poll in U.P. in February, 1969, the Congress Party with 211 of the 425 seats in the House emerged as the single largest party. With the joining of some independents, the party secured absolute majority and a Congress Cabinet under the leadership of Mr. C.B. Gupta was sworn in soon after. Mr. Gupta, however, resigned on 10 February, 1969 when the New Congress group owing allegiance to Mr. Jagivan Ram disowned him. Both the Congress groups now separately approached BKD leader Charan Singh to form a government. The Jana Sangh and the SSP at this time decided to back Mr. Charan Singh if the latter chose to align with them and the Old Congress (C.B. Gupta

Congress group) to form a coalition government. Mr. Charan Singh appeared non-committal in the first instance but ultimately chose the New Congress as his partners. A BKD-New Congress coalition government was subsequently inducted into office under his leadership.

Cracks in the BKD-New Congress coalition appeared when the BKD refused to merge with the New Congress and its parliamentary group voted against the government motion seeking abolition of privy purses of the princes. On 24 September, 1970 the New Congress withdrew support from Mr. Charan Singh, who in a surprise move, demanded resignations of 13 of the 26 New Congress Ministers. On their refusal to quit, the Chief Minister had them divested of their portfolios. The Governor now asked Chief Minister Charan Singh, who headed a minority government with majority of his Cabinet colleagues poised against him, to resign. The Chief Minister refused to oblige and thereby created a first class constitutional crisis.

The Governor sought the Attorney General's advice and, in the light of this advice, reported to the President (then on state visit to USSR) about the breakdown of constitutional machinery in the State necessitating imposition of President's rule. The President's rule was promulgated in the State on 2 October, but the State Assembly was kept in suspended animation.

Now the events moved fast. The Old Congress, the Jana Sangh and the SSP which had earlier declared their support to Mr. Charan Singh made strong representations to the President that their combined strength, joined by the BKD, constituted majority in the State legislature. Simultaneously, these parties formed themselves into Samyukta Vidhayak Dal and elected Mr. T.N. Singh, a former Central Minister and an Old Congress leader, to head the SVD Party in the legislature. Mr. T.N. Singh, who was formally asked by the State Governor to form a government, was sworn in on 18 October, 1970. The President's rule was lifted simultaneously.

West Bengal

Fall of the UF Ministry. After the mid-term poll in February, 1969, a coalition United Front Ministry with Mr. Ajoy Mukherjee as Chief Minister and Mr. Jyoti Basu (CPM) as Deputy Chief Minister, was formed. While some early cracks had appeared in the UF alliance, no serious damage was done till February, 1970 when the in-fighting became public. Most Ministers resented the Marxist Deputy Chief Minister Jyoti Basu's interference in the departments outside his charge. Mr. Basu himself complained that the Chief Minister, Mr. Mukherjee, had used his overall authority to negative some of Mr. Jyoti Basu's orders regarding postings and transfers, as also maintenance of law and order in the State. As it had become impossible for the UF constituents to pull together, Mr. Ajoy resigned on 16 March, 1970. The following day, the C.P.(M) organized the "Bangla Bandh" which provoked widespread clashes and pitched battles resulting in over 30 deaths. On a report from the State Governor that

the constitutional machinery had broken down in the State and that no alternative government was possible, the President took over the administration of the State under Article 356 of the Constitution. The Assembly, which was kept in suspended animation, was ultimately dissolved on 30 July, 1970.

Naxalite Activity. After the fall of Ajoy Government, widespread terrorist activity by the Naxalites was witnessed in the State. Some Naxalites openly sided with China, blatantly accused India of aggression against Socialist China and incited the peasantry as well as the urban poor to rise in a Vietnamese type revolt against the present government. They freely indulged in acts of murder, loot, arson and attacks on schools, colleges and government offices. The Naxalite activity travelled to many other States but was quickly suppressed by firm action. A number of Naxalites were killed in encounters with the police.

Nagaland

With an area of just 6,366 square miles and a population of 3.70 lakh, Nagaland is the smallest of Indian States. The State was formally inaugurated on 1 December, 1963. Nagaland is a narrow mountain strip, ranging from 2,000 to 10,000 ft. in height, and lies between the Brahmaputra Valley of Assam and Burma. Comprising about 1,000 villages, its population belongs to some 15 to 20 tribal groups,* mostly Christian by faith. This is the only State in India where the Christians are in majority. A sizable Naga minority also lives in Manipur (1.25 lakh) and in the Tirap Division of NEFA (40,000). The State has three districts namely Kohima, Mokokchung and Tuensang.

The Naga Stir. The areas, now known as Nagaland, were, during the British rule in India, almost a closed country for the rest of the people though the Indian and the foreign missionaries had easy access to the Naga people there. During World War II, arms were liberally distributed among the tribals to enable them to resist incursions by the Japanese who, after occupying Burma, were knocking at the doors of India. After Indian independence, some Nagas, under the inspiration of foreign missionaries, formed themselves into a "federal government" and started guerrilla hostilities with the Indian security forces. The Nagas were then led by A. Z. Phizo who later fled to England where he continues to reside. He and his followers in Nagaland contend that Nagaland was never a part of India and no nation claimed suzerainty over it before the British. With the lapse of British paramountcy from India, they argue, Nagaland had automatically been freed.

In view of the rigid and obstinate stand taken by the Naga terrorists, there was no meeting ground between the rebels and the Government. The latter, under the present Constitution, cannot allow secession of any territory especially in this case where no semblance of a justification exists. A separate State of Nagaland was, however, created in 1963 to meet the genuine aspirations of the Naga people.

* The main tribes are Angami, Sema, Lhota, Ao, Rengma, Chakesang, Sangtam, Konyak, Chang, Phom, Yimchunger, Khemnyuan and Zeliang Kuki.

The Peace Talks. In February, 1964 a Naga Peace Mission comprising Mr. Jaya Prakash Narayan, the Sarvodaya leader, Mr. B. P. Chaliha, the then Assam Chief Minister and Rev. Michael Scott, a London Missionary, was formed to explore possibilities of negotiated settlement of the Naga question. But the Mission soon ran into difficulties. Mr. Narayan and Mr. Chaliha withdrew from the Mission because of continued Naga violence and sabotage. Rev. Scott was simultaneously accused of indulging in anti-India activities. However, the Mission was successful in bringing about a cease-fire between the rebels and the security forces, effective from 6 September, 1964. The cease-fire continues to be in operation till now.

After the cease-fire, six rounds of talks have taken place between the rebels and the Government of India, the last one being on 5 October, 1967 when the Nagas came down to Delhi under the leadership of Kughato Sukhai, the self-styled "Prime Minister of Naga Federal Government." The talks were deadlocked because of the Naga insistence on their right to sovereignty. The Government reiterated its stand that the aspirations of the Naga People must necessarily be subordinated to the preservation of the Indian Union. It could not, therefore, countenance any demand for the secession of territory.

THE NAXALBARI STIR (*State Bank, Dec., 1967*)

Naxalbari, a strategic neck of land about 25 square miles in area, is situated only three miles east of Nepal. The area forms part of the narrow strip that links Assam with the rest of India. The border between this part of West Bengal and Nepal extends to more than 30 miles. It is not very difficult to cross to East Pakistan from this area. This area is also not very far away from the Chinese-occupied Chumbi Valley near Sikkim.

In March, 1967, the pockets known as Naxalbari, Kharibari and Phansidewa in the Siliguri sub-division of West Bengal, were the scene of terrorist uprising. Some landless tribals, allegedly instigated and abetted by the local leadership of a leftist party, took law into their own hands, attacked the landlords, dispossessed them of their lands (which they forcibly occupied and ploughed) and unleashed a reign of terror and violence. The uprising was well-planned to conform to the three phases: (i) to grab the land and to give it a semblance of agrarian problem, (ii) to let loose a reign of terror and scare away the dispossessed *jotedars*, and (iii) to jointly cultivate the grabbed land and distribute its produce equitably.

Soon the situation became explosive and posed a threat to the security of the area. The police, therefore, swung into action and liquidated the terrorists' strongholds. The movement died down soon after.

Foreign Interference. While Pakistan gloated over the situation created by the lawless elements, China came out openly in support of the uprising. She brazenly called Naxalbari a "patch of red area" in India and the lawlessness as "the front paw of the revolutionary armed struggle launched by the Indian people under

the guidance of Mao Tse-tung." But when the movement died down, Peking blamed "revisionism" of the Indian Communist Party for the failure.

. THE MIZO STIR

Mizo Hills District, formerly known as Lushai Hills, covers an area of about 8,000 miles with a population of about 3 lakhs, 44 per cent of which is literate. The people of the Mizo Hills (as those of the other hill districts) have of late been complaining that they are being discriminated against by the Government of Assam which, they allege, is dominated by the 'plains' people. The Hill people were, therefore, agitating for separate Statehood. With a view to meeting these demands half way, Pandit Nehru promised them a Scottish type of autonomy which, however, did not appeal to them. The Pataskar Commission which had been appointed to go into the question recommended inclusion of a representative of the Hill people in the Assam Cabinet, the creation of Hill Areas Standing Committee for processing legislation in respect of the Hill areas and allocation of more powers to the District Councils.

In the meantime, some terrorist elements among Mizos rose in rebellion against the Government, formed a parallel administration independent of the Assam Government, captured Aijal, the district headquarters, abducted the officials and indulged in acts of widespread arson, looting and violence. The Security Forces, however, took back Aijal, recovered the officials and drove away the lawless elements. While the hard core of the Mizo rebels had thus been liquidated, some elements continued to be at large and indulged in subversive activities or sniping of Security Forces.

Operation Security. With a view to saving the Mizo population, living in the outlying areas, from the ravages of the terrorists belonging to the Mizo National Front, the Army launched the "Operation Security" on 4 January, 1967. The operation envisaged shifting of about 50,000 Mizo people from their villages and having them settled in 18 new townships in a 10-mile safety-zone on either side of the Virangte-Lungleh road, near Aijal. The new townships have been provided with adequate educational facilities for the children and medical facilities for the whole population.

REORGANISATION OF ASSAM STATE

With an area of 47,290 sq. miles and population (according to the 1961-census) of 11,872,772, Assam has three distinct natural divisions—the Brahmaputra or Assam Valley, the Surma or Barak Valley and the Hills. Nearly one half of the area of the State (22,732 sq. miles) is covered by hills. The hill areas are sparsely populated and inhabited by the hill tribes. The population of the hilly areas, according to the 1961-census, is about 13.16 lakhs. The hill districts have been allowed, under the Constitution of India, a large measure of self-governing rights in accordance with their respective tribal traditions and customs, exercised through Autonomous District Councils under the supervision of the Government of Assam.

Of late, the hill people have been nursing a grievance that they have been given a raw deal by the Assam Government which, they allege, is dominated by the people belonging to the plains. To meet their demands half way, Prime Minister Jawaharlal Nehru had in 1963 offered a Scottish type of autonomy which the people of the hill areas did not approve. Later in April, 1965, the Government of India appointed a Commission, headed by Mr. H.V. Pataskar to examine the proposed administrative set-up for the Hill Areas and suggest how best to effect the reorganisation. The Commission submitted its report to the Government of India on 31 March, 1966. It recommended the inclusion of a Minister belonging to Hill Areas in the State Cabinet, creation of a Hill Areas Standing Committee in the State Assembly to initiate and process legislation for the Hill Areas, strengthening of the district councils and appointment of a Commissioner to maintain liaison between the tribals and the State Government. In the meantime, large-scale violence erupted in the Mizo Hills where some tribals, under the direction of Mizo National Front, were able to temporarily paralyse the administration by acts of sabotage, abduction and terrorism.

A representative delegation of the All Party Hill Leaders Conference, a moderate organisation of the Hill people formed in 1960, met the Central leaders. The latter were reported to have agreed to establish a new set-up for the hilly area of Assam, envisaging increased representation for the Hill Areas in the State Assembly as well as Parliament, and regional autonomy for these areas but with a common Governor and High Court.

Federal Structure for the Assam State. In January, 1967, it was agreed to between the Central leaders and the APHLC delegation that Assam would be reorganised into a federal structure with the federating units having equal status. While it completely satisfied the delegation, the leaders of North Cachar and Mikir Hills (a constituent unit of the Hill Areas) were not happy about the formation of a composite hill unit. The Assam Government on the other hand, vehemently opposed the creation of a separate set-up for the Hill Areas.

The Ashoka Mehta Plan. The Ashoka Mehta Committee (representing all interests in Assam) rejected the earlier proposal of a regional federation between the hill areas. It recommended that :

(i) largest measure of autonomy should be given to the districts; (ii) each district should have its own Council of Representatives, having legislative and executive powers; (iii) in respect of legislation regarding particular districts, the Governor will consult the Chief Minister and Chief Councillor of the district concerned; (iv) the police control will rest with the State Government.

The Ashoka Mehta plan was totally rejected by the APHLC. Later, in September, 1967, the Ashoka Mehta recommendations were shelved.

Reorganisation of Assam. The Government of India announced on 11 September, 1968 the constitution of an autonomous State within the State of Assam comprising the autonomous districts of Garo Hills, Khasi Hills and Jowai. The reorganisation scheme had earlier been approved by the Congress Working Committee. The Government was able to evolve this compromise keeping in view the larger national objectives—the vital importance of the area from the viewpoint of defence and the coordinated and integrated approach of the development of the whole area. Necessary legislation for the creation of the autonomous State of Meghalaya within Assam was passed by both Houses of Parliament on 24 December, 1969. The reorganisation scheme provided for the following :—

1. An autonomous State within the State of Assam, comprising the autonomous districts of Garo Hills, Khasi Hills and Jowai will be formed. It will have a legislature and a Council of Ministers. The Governor of Assam will be the executive head of the State and would function through the Council of Ministers.

2. Except some common subjects, all other subjects will be handed over to the autonomous State. The subjects like State highways, irrigation projects, navigation and major industries will continue to be dealt with by the Assam Government.

3. Law and order will rest with the Assam Government. However, village and town police will continue to be under the district councils.

4. The hill areas of Assam will continue to have representation in the Assam State Assembly as well as in the Cabinet. A Standing Committee of the representatives of the hill people will be constituted to process legislation of common interest to the hill people as well as the people of Assam.

5. The District Councils will continue to function as at present.

6. The Assam High Court, Public Service Commission and the State Electricity Board will have jurisdiction over the autonomous hill State.

7. The autonomous districts of Mikir Hills and Cachar Hills will be given the option to join the autonomous State provided the respective district councils adopted a resolution to that effect with two thirds majority.

8. For an integrated development of the region and from the standpoint of defence of the whole eastern region, a high-level advisory council designated as North-Eastern Council will be constituted. It will be composed of the Governor of Assam and Nagaland (as its Chairman), the Chief Ministers of Assam, Nagaland and the autonomous State, one Minister from each of these States and Chief Commissioners and Chief Ministers of the Union Territories in the region. The Centre will provide Secretariat and other facilities for the Council.

Meghalaya, consisting of Garo, Khasi and Jaintia Hills Districts, has an area of 22,550 sq. kms with an estimated population of one million. Mikir Hills and North Cachar which had

been given an option to join Assam or Meghalaya, have chosen to remain with Assam. The languages of Meghalaya are Khasi and Syntenge. The State was formally inaugurated by the Prime Minister on 2 April, 1970.

Meghalaya Government. In the first Meghalaya elections, held in March, 1970, the All Party Hill Leaders Conference (APHLC) won 34 of the 38 Assembly seats. A five-man Cabinet under the chief ministership of Capt. W.A. Sangma was installed into office later.

New Assam Government. Chief Minister B.P. Chaliha, who was ailing for some time, resigned on 30 Oct. 1970, and simultaneously retired from active politics. The New Congress Assembly Party had earlier in the day elected 61-year old Mr. Mahendra Mohan Choudhury as the new leader. The new State Cabinet under the chief ministership of Mr. Choudhury was sworn in on 6 November, 1970.

MAHARASHTRA-KERALA-MYSORE BOUNDARY DISPUTE

For a long time, both Maharashtra and Mysore disputed their common boundaries at some places and advanced claims on each other's territory. In fact there were some Marathi-speaking areas in the Mysore State and some Kannada-speaking areas in Maharashtra. A dispute had also arisen between Mysore and Kerala over a small stretch of land, which Mysore claimed on linguistic basis. In October, 1966, a boundary commission, headed by Mr. Mehr Chand Mahajan, former Chief Justice of India, was appointed to go into the dispute and suggest a solution. The Commission submitted its report to the Central Government in September, 1967. It was officially released on 4 November, 1967.

The Award involves the transfer of about 500 villages. Out of a total of 814 villages, claimed by Maharashtra, the Commission has recommended the transfer from Mysore to Maharashtra of 264 villages along with the towns of Nipani, Khanapur and Nandgad, covering an area of 656.3 sq. miles and with a total population of 2.81 lakhs. These villages have predominantly Marathi-speaking population (79.1 per cent). On the other hand, it has recommended the transfer from Maharashtra to Mysore of 247 villages with a population of 3.49 lakhs of which 2.02 lakhs are Kannada-speaking. The Commission has rejected Maharashtra's claim to Belgaum and the counter claim of Mysore State to the textile town of Sholapur, the taluka of Chandgad and the taluka of north Sholapur. The Commission has also awarded the present Kasargad taluk (in Kerala) minus eight villages to Mysore. The Kerala State Government had boycotted the Commission and refused to present her case before it. The Central Government has yet to take a decision on the report.

Full Statehood for Himachal Pradesh, Manipur, Tripura and Meghalaya.

The Prime Minister announced in Lok Sabha on 31 July, 1970 that Himachal Pradesh—the picturesque 22,000-sq. mile Himalayan Union Territory—would be granted full Statehood. Later the Government conceded, in principle, a similar status for

the Union Territories of Manipur (8,629 sq. miles) and Tripura (4,036 sq. miles) and the sub-State of Meghalaya. After the grant of Statehood to these territories, the number of States would increase from the present 17 to 21. Necessary legislation embodying these decisions would be presented to the Parliament in the near future. Demand for Statehood to Delhi (573 sq. miles) and Goa (1431 sq. miles) has also been voiced.

Abolition of Privy Purses

Historical Background. It was explained by the Cabinet Mission in 1946 that with the grant of independence "His Majesty's Government will cease to exercise the powers of paramountcy". In other words it meant that all rights surrendered by the States to the Paramount power were to automatically return to the States, which might enter into some kind of federal relationship with the successor governments or "a particular political arrangement with them". After 15 August 1947, with the exception of Mysore, Hyderabad and Kashmir, the Indian princely States had merged themselves into the two Unions—India and Pakistan. The rulers of these States had surrendered their power to the Union or to the Provinces and had accepted, in return, fixed annual payments known as privy purses. Such sums were paid out of the Consolidated Funds of India and were exempt from all taxes. In 1970, 278 former rulers enjoyed privy purses ranging from Rs. 26 lakhs in the case of ruler of Mysore to Rs. 192 in the case of ruler of Kathodia. Since independence they had drawn about Rs. 101 crores as privy purses.

Congress for Abolition of Purses. The famous ten-point resolution of the Congress (in 1967) considered the privileges enjoyed by the rulers as incongruous to the concept of democracy and asked the Central Government for their abolition. The abolitionists were of the view that these costly privileges were an anachronism, violative of the democratic principles. Others, however, opined that the Princes had made a great sacrifice by merging their States with the Union and the privileges allowed to them in the shape of purses etc. were comparatively an insignificant price, progressively reducing in size. From a 20-crore annual payment in 1947, it had now reduced to just 4.5 crores.

Constitutional Amendment Bill and Derecognition. The Constitution (24th Amendment) Bill seeking to do away with purses and privileges was introduced in the Lok Sabha on 18 May, 1970. In spite of stiff opposition from Old Congress, Swatantra and Jana Sangh, the Bill was passed on 2 September with a narrow margin of one vote. But the measure failed to get two-thirds majority in the Rajya Sabha and, therefore, automatically lapsed. However, in a swift move, the President, by means of an order, derecognized the Princes. This measure automatically deprived the ex-rulers of their purses and privileges.

Issue in the Supreme Court. Five of the Princes took the purses-battle to the Supreme Court, challenging the Presidential Order as "mala fide, arbitrary and capricious". Their case was based on : (i) The Government has no authority to issue order on the matter already rejected in the Parliament ; (ii) The merger of

States during 1 January, 1948 and July, 1949 was consequent to signing of the merger agreements. The payment of privy purses and guaranteeing privileges flowed from these contractual agreements entered between two Sovereign powers, Indian Union and the States—and were inseverable from accession and merger. They are a part of the constitutional law and not political agreements (as claimed by the government); (iii) These covenants and agreements are both permanent treaties and bilateral contracts; (iv) Withdrawal of contractual obligation by one party gives the other party right to revert to the original position when the agreement had been executed; (v) The Presidential Order has been issued without hearing the Princes and thus it violates the principle of natural justice. (vi) The Order violates Article 14 of the Constitution since it singles out the rulers for hostile discrimination and, for purely political reasons, subjects them to affront of derecognition and deprives them of their valuable property and rights without any compensation; and (vii) It violates the property rights, enshrined in the Fundamental Rights.

The Government case was based on the following points : (i) The former rulers had no fundamental right to be recognized as rulers for ever by the President. The recognition of a ruler was a "gift of the paramount power" and not a matter of legal right. Integration of States was a result of political compulsions at that time. (ii) Presidential Order to derecognize the Princes was a political act to which the Courts had no jurisdiction. (iii) The merger agreements and covenants between the Princes and the Government were an "act of State"—a political act. The sanction for these guarantees was, therefore, political and not legal. Under Article 363 of the Constitution, any dispute arising out of these agreements was to be kept outside court interference. The rights, on the other hand, were not permanent in nature and could be varied. (iv) Right to privy purse is not a property right, protected in the Fundamental Rights. (v) The Order was not an affront to Parliament. (vi) The dispute could not be adjudicated in a court of law under Article 362 of the Constitution.

Presidential Order Struck Down. The Supreme Court in its judgment on 15 Dec. 1970 struck down the Presidential De-recognition Order of 7 September as *ultra vires* of the Constitution and inoperative. It restored to the Princes their titles, privileges and the privy purses. The payment of purses, according to it, was mandatory and could not be withdrawn arbitrarily. Prime Minister Indira Gandhi has, however, assured the Lok Sabha that the Govt. stand committed to the abolition of the princes' purses and privileges by "appropriate constitutional means."

Abolition of Special Privileges of the ICS

On 9 April, 1970, the Union Cabinet decided to abolish the special privileges enjoyed by the members of the Indian Civil Service and to support the SSP leader Mr. Madhu Limaye's private bill in the Lok Sabha seeking abolition of the said privileges. It also decided to appeal against the Delhi High Court judgment striking down the government amendment of 1957 whereby the ICS officers' entitlement to an annuity in sterling in UK had been

withdrawn. As Mr. Chavan explained later, it was primarily a question of Parliament's right to legislate on these matters. The Government could not countenance special privileges outside the purview of Parliament.

The Bill Fails. The Constitution Amendment Bill was moved in the Lok Sabha by Mr. Madhu Limaye on 28 April, 1970. To pass, it required the backing of half the strength of the House and a two-thirds majority of those present and voting. It failed to satisfy even the first condition and was defeated in a division when it could muster only 213 votes in its favour, 47 less than the half strength of the Lok Sabha. As against the total attendance of 450 members in the morning on that day, only 235 were present at the time of voting. Of these, 21 voted against the measure and one abstained.

What are the ICS Privileges like? The origin of a superior civil service for India (later called Indian Civil Service) dates back to 1772. Till 1920, its composition was dominated by Englishmen. After World War I, recruitment to the ICS was conducted simultaneously in England and in India on the basis of a competitive examination. At the time of independence in 1947, nearly half of the ICS officers were Indian. Described by the British Government as the administrative "steel frame", the ICS was a covenanted service, each member of which had signed with the British Secretary of State a covenant of service in India. The position and privileges of these covenanted civil servants were negotiated between the British and the Indian Governments at the time of independence. Article 314 was later enacted by the Indian Constituent Assembly to protect these specific conditions of service of the ICS officials. Recruitment of ICS officers had, however, stopped earlier. A new service known as the Indian Administrative Service was constituted to replace the earlier service.

The ICS officers enjoy a number of privileges, not allowed to officers of their successor cadre, the IAS. An ICS officer cannot be compulsorily retired as a penalty. On the other hand, he has the option to seek retirement at any time after five years of service on proportionate pension and premature retirement at full annuity. He can only be suspended by the Central Government pending disciplinary proceedings against him by a State Government. A retired ICS officer has a title to an annuity of Rs. 12,333.33 per year and an optional death-*cum*-retirement gratuity of Rs. 24,000 in lump sum in which case his annuity would be reduced by about Rs. 2,000. He had the option (since withdrawn but struck down by the Delhi High Court) to draw his annuity in UK at £1,000 per year. An ICS Secretary to a Ministry gets Rs. 4,000 as pay against Rs. 3,500 allowed to an IAS officer. He earns leave on average pay without any maximum limit whereas the IAS officer can accumulate this leave to a maximum of 180 days.

India's Nuclear Option

The Chinese launching of a satellite in April, 1970 was a clear evidence of their breakthrough in space science and technology. It also made India increasingly apprehensive of Peking's

attempts to progressively evolve a carrier-system for its nuclear warheads. Every fresh demonstration of growing Chinese nuclear capacity turned out to be an additional argument for an Indian bomb. Most Indian experts—a majority of them retired Army officers—have pleaded for India going nuclear for reasons of security and international prestige. It has been emphasized that China spends \$500 million a year on her nuclear programme.

While the Indian Government has consistently held its ground against manufacturing atomic weapons, it has let known that the country may, in the near future, undertake underground nuclear explosions, primarily for peaceful purposes. The ten-year nuclear programme, submitted by the Atomic Energy Commission, envisages building up of the requisite infra-structure for exercising the nuclear option, whenever considered necessary. The programme includes the construction of a fast breeder test reactor, augmentation of heavy water production, development of uranium mines and construction of four new nuclear power stations. A parallel space programme prepared by the Commission envisages development of a 4-stage launcher by 1973-74, launching of a 40-kg. satellite by 1974, development of in-flight guidance systems for rockets, construction of missile-tracking radars and rocket and satellite fabrication facilities.

THE CENTRE, THE STATES AND THE ROLE OF GOVERNORS

When Congress ruled at the Centre and in the States, the question of Centre-State relations had only academic interest. The Governors also acted as the constitutional heads, almost entirely on the advice of their Council of Ministers. The fact that wide discretionary powers vested in the Governors was forgotten because a situation hardly arose when they had to take resort to this constitutional right. However, after the election of 1967, Congress failed to secure absolute majority in 8 States. In some States, non-Congress Ministries were formed which were, at best, not favourably disposed and, at worst, violently hostile towards the Congress-dominated Centre. To ensure smooth functioning, a spirit of tolerance, political co-existence and mutual accommodation was essential between the Centre and the States. And if this necessary accord did not exist, the role of Governors as a constitutional check on States was highlighted.

The Controversy. The Controversy about the role of Governors arose when Mr. Dharma Vira, the Governor of West Bengal, while addressing the joint session of the State legislature, skipped two paragraphs of the Address, which were condemnatory of his own action resulting in the dismissal of the UF Ministry in November, 1967. The Governor had earlier informed the West Bengal Chief Minister of his objection to the two paras but the Ministry insisted that the Governor was constitutionally bound to act on the advice of his Council of Ministers. The second case cited in this connexion was the action of the Governor of Madhya Pradesh who in March, 1969, ignored the advice of his seven-day old Council of

Ministers, headed by Chief Minister Raja Naresh Chandra Singh, to dissolve the Assembly and order mid-term elections and instead invited the leader of the opposition to form a government.

It is argued that, according to Article 163 of the Constitution, the Governor, being a figure-head, is expected in all matters to act on the advice of his Ministers, who are collectively responsible to the legislature. Dr. Ambedkar's observations, Prime Minister Nehru's statement of February, 1960 and some judicial decisions may be cited in support of the view that the Constitution has recognised the Governor as a purely constitutional head without any discretionary functions. Some have described the powerless Governors as superfluous functionaries and demanded the very abolition of this institution.

The Defence. It is agreed on all hands that the Governor, under normal circumstances, is a mere figure-head but under Article 163 (1) he is to be advised by the Chief Minister "except in so far as he is by or under this Constitution required to exercise his functions or any of them in his discretion". Thus in the matter of appointment of Chief Minister, in dissolving the legislature, and in reporting the breakdown of constitutional government in a State, the Governor has a wide range of discretionary powers. In the last two situations, the Council of Ministers, whose interests are likely to be affected by his action, cannot be expected to advise the Governor for the dissolution of the legislature or its own dismissal. Under these circumstances, the Governor is required to stir out of his ceremonial shell and act with authority as the agent of the President (the Centre). In this case, Governor Dharma Vira's intervention in 1967 was supported by the Central Ministry, the Central legislature and was upheld by a competent court — the Calcutta High Court. Thus if the Governor was within his right to dismiss the UF Ministry, as upheld by the Calcutta High Court, he was legally bound to reject its condemnation also. Governor's Address, as Mr. C. Rajagopalachari observed, is a statement of the future programme of the new Ministry. It is so as to preclude all talk of what had happened before. Mr. Nehru, it is argued, favoured the nominated Governors because it would increasingly centralize the federal structure by keeping the Centre in touch with the States and thereby checking separatist tendencies and centrifugal forces.

FUNDAMENTAL RIGHTS AND THE PARLIAMENT

About three years ago, in the Golaknath case, an 11-man Supreme Court Bench held, by a majority of six to five, that Parliament had no right to amend the provisions of Part III of the Constitution with a view to taking away or abridging the fundamental rights enshrined therein. Article 13 (2) of the Constitution provides: "The State shall not make any law which takes away or abridges the rights conferred by this part and any law made in contravention of this clause shall, to the extent of the contravention, be void." The majority judgment held that Article 13 (2) does indeed govern a constitutional amendment as well. Mr. Justice Hidayatullah, one of the Judges on the Bench, stressed :

"Parliament must act in a different way to reach the fundamental rights.....Parliament must amend Article 368 to convoke another Constituent Assembly... and then that Assembly may be able to abridge or take away the fundamental rights if desired. It cannot be otherwise done."

The essence of all this is : the fundamental rights constitute the very foundation of the political, social and ethical fabric of our society. Like the fundamental rights enshrined in Japanese and American Constitutions, they are inviolable and beyond encroachment of Parliament.

As the majority judgment is legally binding, the Parliament has under consideration Mr. Nath Pai's Bill, seeking to restore to the Parliament the right to abridge by only a two-thirds majority, the fundamental rights, which it had hitherto exercised with the consent of the Supreme Court. The bill was referred to a Joint Committee which recommended that States should also be associated with the amendment of fundamental rights, i.e., amendment must be ratified by at least one half of the States of the Union. Some hold the view that the Parliament is a law making body as well as a Constitution making agency. If it can amend other provisions of the Constitution, it is certainly empowered to abridge the fundamental rights too.

Administrative Reforms Commission

The Commission was appointed by the Government of India to examine the system of public administration in the country and to make recommendations for its improvement and reorganisation. The Commission was set up under the Chairmanship of Mr. Morarji Desai who was later succeeded by Mr. K. Hanumanthaya. It has made the following recommendations : 1. The Central Council of Ministers should consist of 40 or 45 members including 16 Ministers of Cabinet rank. The Prime Minister should not ordinarily be in charge of a Ministry and "should mostly be available for guidance, coordination and supervision. He/she should have "institutional support" in the form of Deputy Prime Minister. 2. While the size of Ministries should strictly conform to the needs of administration, the number of Ministers and Deputy Ministers in a State should not exceed six per cent of the total number of legislators. 3. The Governor should be allowed to summon a legislature even in the absence of or contrary to the advice of the Chief Minister. 4. For purity and integrity in public life, the institution of Lok Pal and Lok Ayukt deserves commendation. 5. The lowest and the highest salaries should range between Rs. 125 and Rs. 2,500. 6. Panchayats have come to project only dissensionist politics without promoting public welfare. 7. An Industrial Commission should be appointed every five years to assess industrial progress and remove imbalances, if any. 8. The CSIR should be split into four or five Commissions. A national council of science and technology should be established as the apex body to advise the government on scientific and technological matters. 9. A reasonable economic and technological base should be created to sustain self-sufficiency in defence requirements.

The ARC was formally wound up on 30 June, 1970. During its tenure of 4½ years, it conducted 33 studies and submitted to the government 20 reports. It examined the machinery of the Central Government, its procedure of work, machinery for planning at all levels, the administration at the State and District levels and the problems relating to the redress of citizens' grievances.

Donations to Political Parties

The Government have decided to ban public or private business houses from contributing funds to the political parties. According to the statistics collected for the period 1962-1968, 47 political parties had received a total of Rs. 2.60 crores by way of donations from the companies. Out of this amount, Congress claimed Rs. 2.05 crores, Swatantra Party Rs. 46.02 lakhs and the Jana Sangh Rs. 1.20 lakhs. The ban on donations is motivated by many considerations, including: (1) Such donations are made out of the profit of shareholders who are thereby denied this gain; (2) Govt. loses income tax on donations; (3) The business houses donate funds for certain expectations namely, favours, industrial and commercial policies that promote their business, grant of licences, loans and better facilities of institutional credit; (4) Creation of a powerful lobby which becomes vocal as soon as the Govt. moves in a direction that affects the big business in any manner. Those who support business donations to the parties justify them on the grounds: firstly, the cost of electioneering being prohibitive, parties cannot meet their expenses unless outside help comes in and secondly, that acceptance of donations does not mean that the political parties are bound to be amenable to the unhealthy influences of business houses.

THE LANGUAGE CONTROVERSY

The Associate Language. Article 343 of the Indian Constitution provides that Hindi in Devanagiri script shall be the official language of India and the form of numerals for official purposes shall be the international form of Indian numerals. English as the official language, was to continue up to 26 January, 1965. In view, however, of the South's antagonism towards Hindi, Mr. Nehru assured the Parliament on 7 August, 1959 that English as an associate language would be retained "as long as people required it and I would leave the decision for that not to the Hindi-knowing people but to the Non-Hindi-knowing people."

The Official Languages Act, 1963. The Act provided that (i) English would continue to be in use for all official purposes up to 26 January, 1975. (ii) After that date, the President was empowered to appoint a 20-member Reviewing Parliamentary Committee, drawn from the members of Lok Sabha and Rajya Sabha, to ascertain the wishes of the State Governments before complete switch-over to Hindi. (iii) All legislative enactments would be accompanied by authorised Hindi translations. (iv) The State Governors were authorised to introduce Hindi as official language of the State and for conducting the business of the High Court.

But all the judgments must be accompanied by their English translations. (I.R.S.E., I.A.S., 1963)

Later Developments. On 26 January, 1965, Hindi became the official language of India and English was given a secondary status. The switch-over to Hindi as the official language sparked off wide-spread student disturbances in Tamil Nadu resulting in extensive loss of public property and violence. These developments revived memories and gave fresh life to South's apprehensions about the eclipse of regional languages and the "domination of North over the South." The government was, therefore, discreet by going slow and employing persuasion rather than coercion in converting the South to accept Hindi as the ultimate official language of India.

The Official Languages (Amendment) Act. With a view to setting South Indian apprehensions at rest, the Home Minister Mr. Y.B. Chavan introduced on 27 November, 1967 in the Parliament, the Official Languages (Amendment) Bill, 1967. Speaking on the Bill in the Parliament, Shri Chavan said that Hindi was the official language of the country. However, there were some citizens who wanted English to continue for the present and a spirit of accommodation was called for so that ultimately Hindi became the sole official language. It was in this background, he added, that Prime Ministers Nehru and Shastri had assured the non-Hindi-knowing people about the continuance of English. He emphasised that complete switch-over to Hindi was a matter of time but it would have to be done by a process of persuasion rather than coercion. The Bill was passed by the Lok Sabha on 16 December, 1967 with two amendments. After the President's assent, it became an Act. It provides the following :—

(i) The English language may continue to be used, in addition to Hindi, for all official purposes of the Union and for transaction of business in the Parliament.

(ii) English language shall be used for purposes of communication between the Union and a State which has not adopted Hindi as its official language.

(iii) Where Hindi is used for purposes of communication between one State which has adopted Hindi as its official language and another State which has not adopted Hindi as its official language such communication in Hindi shall be accompanied by a translation of the same in the English language.

(iv) Till such time as the staff acquires a working knowledge of Hindi, translations of communication in English or Hindi as the case may be will have to be provided in respect of Central Government offices, Ministries, Corporations and Union Government-owned companies.

(v) Both Hindi and English language shall be used for rules, general orders, resolutions, press communiques (issued by the Central Government), administrative and other reports, official papers laid before a House or the Houses of Parliament, contracts and agreements, licences, permits, notices and forms of tenders issued.

(vi) This arrangement shall remain in force until resolutions for the discontinuance of the use of the English language for purposes mentioned therein have been passed by the legislatures of all the States which have not adopted Hindi as their official language and, only after a resolution for such discontinuance has been passed by each House of Parliament.

The resolution, adopted by the Lok Sabha, on Language Policy provided for the following :—

(i) The Union and State Governments will prepare plans for the coordinated development of all the languages, mentioned in the Eighth Schedule of the Constitution.

(ii) Effective steps should be taken for implementing fully in all States the three-language formula evolved by the Government of India in consultation with the State Governments.

(iii) Facilities should be provided for the study of a modern Indian language, preferably one of the Southern languages, apart from Hindi and English, in Hindi-speaking areas, and of Hindi along with the regional language and English in the non-Hindi-speaking areas.

(iv) Compulsory knowledge of either Hindi or English shall be required for recruitment to Union services or posts.

(v) All the languages mentioned in the Eighth Schedule of the Constitution shall be permitted as alternative media for the all India and higher Central services examinations after ascertaining the views of the Union Public Service Commission.

THE MEDIUM OF INSTRUCTION

The medium of instruction has been the issue on which most of our educationists and intellectuals agree to differ. The controversy at one time became so keen that Shri M.C. Chagla, the Minister for External Affairs and a former Central Education Minister, resigned in protest against the "complete reversal" of his educational policies. The prevailing difference of opinion relates to :—

(i) Whether the medium of instruction should be the respective regional languages;

(ii) Whether a common language should be adopted as a uniform medium of instruction as English had been till recently ; and

(iii) If the common language is to be the medium of instruction, should the choice fall on Hindi or English?

The Education Commission. The Government of India appointed a 16-member Education Commission on 16 July, 1964 under the Chairmanship of Dr. D. S. Kothari, Chairman of the University Grants Commission. Its report was submitted to the Government on 29 June, 1966. It recommended, among other things, that (i) The three language formula should be modified to include (a) mother tongue or regional language as the first language, (b) the official language of the Union or the associate official language of the Union as the second language ; and (c) a third language which should either be a modern Indian or a European language other

than that used as the medium of instruction. (ii) Mother tongue has a pre-eminent claim as the medium of instruction at school and college stages. The regional languages, therefore, be adopted as the medium of instruction at the higher stage. (iii) It was desirable to open some institutions at school and college level having a world language as the medium of instruction. English should continue to be used as link language and also the language of the intellectual dialogue. (iv) Regional languages should be made the language of administration in the regions concerned as early as possible. (v) All India institutions should continue to use English as the medium of instruction, to be ultimately replaced by Hindi.

The Three-Language Formula. Proposed and evolved at the Chief Ministers' Conference, the Three-Language Formula was later approved by the Emotional Integration Committee, headed by Dr. Sampurnanand. The formula envisages that :

(i) The child should receive his instruction up to the primary stage in the regional language or the mother tongue, if the latter is different from the regional language;

(ii) beyond the primary stage, Hindi in the non-Hindi knowing areas and one of the fourteen (now fifteen) languages mentioned in the Constitution in the Hindi-knowing areas must be taught;

(iii) English or one of the modern European languages must be learnt by every child beyond the primary stage. Thus all students beyond the primary stage must be conversant with both Hindi and English.

The Two-Language Formula. A Committee of Members of Parliament, on which various political and linguistic interests were represented, was formed by the Government of India to report on the feasibility of the Three-Language Formula and to suggest an alternative arrangement if the formula was found to be wanting. The M. P.s' Committee suggested .

(i) Teaching of three languages to school children was not only irksome but also cumbersome for the young students.

(ii) All States should switch over to the regional languages as medium of instruction from the primary to the highest stage.

(iii) At the second stage of school education, provision should be made for the compulsory teaching of one of the regional languages including English.

(iv) If a student has not learnt either the official or the associate language of the Union at earlier stages, he should be asked to take Hindi or English from eighth to tenth class. Thus no student would pass out of tenth class unless he has learnt one or the other link language.

(v) The change-over should be completed in five years both at the under-graduate and the post-graduate levels and all India institutes should use both Hindi and English as media of instruction.

Latest Developments. The Congress Working Committee, at its meetings on 2 Sept., 1967 and 26 Feb., 1968, decided that (i) Hindi would be the link language but the English as an associate language would continue; (ii) The States would be free to transact their business in any language they liked; (iii) The medium of education would be changed to the regional languages at all stages and all State and Union Public Service Commission examinations would be held in the languages mentioned in the Eighth Schedule of the Constitution; (iv) Implementation of three-language formula will be tightened and stepped up. Entrants to all India services from Hindi region will be asked to qualify a test in a non-Hindi language and those from non-Hindi areas in Hindi. Thus the three-language formula will be extended to the field of Central Government employment.

CHAPTER 24

CURRENT AFFAIRS (WORLD)

(a) ASIAN AFFAIRS

Power Vacuum in Asia. The fifties of the present century were marked by the American efforts at containment of China. The sixties represented the consolidation of the meagre gains as also a serious American reappraisal of their policies in view of the vast failures. The Korean war of the early fifties and the continuing war in Vietnam added hardly to the American image of a major World power. It was only natural that the United States should feel disenchanted with her role as the policeman of the world. The first year of the seventies, therefore, saw the evolution of the Nixon Doctrine, envisaging a far more effective involvement of the Asian regional powers in the disputes arising among them. Under the Doctrine, the United States will, of course, give them moral and material help but would not fight their battles. The logic of the new policy suggested that America would progressively disentangle herself from her Asian involvements and leave these areas to fend for themselves. Earlier in 1968, the Labour Government of Britain had suddenly discovered that the country could no longer afford her £300 million defence spending east of Aden. It, therefore, decided to liquidate her bases and concentrate itself on the country's defence nearer home.

The British and American decision to quit their bases in the East led some Asian nations to fear that some kind of power vacuum would be created in Asia. The nations that depended entirely on Britain or America for their economic and defence needs, were in complete disarray. Their apprehensions are that after the expansion of their naval arm and acquisition of a firm foothold in the Middle East, Russians are out to fill up this vacuum. Russians, on the other hand, allege that with the creation of a separate command for the Middle East, Africa, south of Sahara and South Asia (MEAFSA), the USA is keen to replace Britain in the region. While countries like India refuse to accept that the projected British withdrawal from the Indian Ocean and the American withdrawal from South Vietnam would create power vacuum in Asia, most Asian nations are convinced that the British and American withdrawal will impart more manoeuvrability to Communist China in her attempts to bring the weak Asian nations under her protective shield. The pro-West and some non-aligned nations are, therefore, willing to forge a security alliance that can stand the onslaught of Chinese expansionism. India has, however, made clear to these nations that she is dead against regional alliances of military nature, through which some super powers seek to play the game of their global strategy, but would be willing to carve out an economic cooperation programme for the region which may help concerned countries become econo-

mically strong to resist the Chinese pressure. India's position regarding the Indian Ocean is quite clear. It must be kept free of foreign armies and, to that extent, India welcomed British exit from the Indian Ocean. This policy has lately been endorsed by Ceylon, Burma, Indonesia and Mauritius.

With the partial reversal of British policy on Asian bases by the new Conservative Government, the concept of British withdrawal has only academic interest now. Britain has decided to maintain her military presence in Malaysia and Singapore and, in a White Paper, proposed a five-power alliance with Australia, New Zealand, Malaysia and Singapore to guard Commonwealth security in the Far East and to help preserve confidence in the area. This arrangement is likely to reduce her defence spending in the area to about £10 million a year.

Economic Alliance in Asia. The miraculous economic recovery of the E.C.M. nations has encouraged some Asian leaders to think that a similar arrangement in Asia, participated by the regional nations, would prove equally rewarding. President Suharto of Indonesia has recently suggested to enlarge the economic and cultural grouping under the ASEAN to include all nations of the region, irrespective of their political systems. Such cooperation, he maintains, would not only reduce big-power conflict in the area but would also help these nations sort out their problems among themselves. According to an ECAFE document, the best mode of promoting intra-regional cooperation among Asian countries rests in the elimination of trade barriers, long-term purchase commitments, commodity stabilization agreements, establishment of a payment scheme and a common currency called the Asian Clearing Dollar. It has, however, ruled out as unrealistic the creation of a full-fledged customs union or a free trade area—mainly for reasons of political, social and economic inequalities existing in Asia.

Indo-Afghan Land Route. There is a proposal to open a land route for trade between India and Afghanistan through Pakistan. Another sea-and-land route from India to Iran and then on to the USSR border through Turkey is also proposed to be developed. A conference of representatives of Afghanistan, India, Pakistan, Iran, Turkey and Soviet Union had been proposed to discuss this proposal as also other areas of regional cooperation among the nations. While most of these countries have shown considerable enthusiasm for the proposal, Pakistan appears to be cool and non-committal, perhaps due to China's scepticism and open hostility towards this move. Peking has also openly accused the USSR to be working for a global encirclement of China in collaboration with India, Japan and the USA.

Pakistan

The Background. Pakistan was achieved in a short time, not much marked by political campaigning. On 23 March, 1940, the All India Muslim League, at its session in Lahore, passed the Pakistan Resolution, describing Indian Muslims a separate nation and envisioning a State wherein their aspirations could be fulfilled. "The imaginary land of milk and honey" was translated into reality on

14. August, 1947. That day, Pakistan had come to stay! The blood of millions of innocent persons, killed or maimed, and loss of property worth billions of rupees were termed not a great price for the land of hope. Mohd. Ali Jinnah could claim the establishment of Pakistan as the realization of personal glory. None else had worked harder for it.

Jinnah's death in 1948 created a political void. The country had hardly had a moment of rest. The war that she had unleashed in Kashmir was piling costly with her forces progressively falling back. The refugee problem was gigantic. People cried for bread and clothing as also for sugar and other necessities. Political life, symbolized in the word and will of Governor General Mohd. Ali Jinnah, was now, after his death, in a stunned wilderness. In this hour of confusion, Khwaja Nazimuddin, the Muslim League Chief Minister of East Pakistan, was elevated as Governor General while Liaquat Ali continued as Prime Minister. Liaquat Ali Khan was assassinated on 16 October, 1951 in mysterious circumstances. Nazimuddin now stepped down to Prime Ministership with the simultaneous installation of Ghulam Mohd, a senior civil servant, as the Governor General. In 1953, Ghulam Mohd. dismissed Nazimuddin and appointed Mr. Mohd. Ali, Pakistan's Ambassador in the USA, as Prime Minister. The following year, Ghulam Mohd. struck again and forced Mohd. Ali to reconstitute his government to include Army Chief, General Mohd Ayub Khan as Defence Minister and defence Secretary Iskander Mirza as the Interior Minister. The later years saw similar political vicissitudes. The Prime Ministers who made their appearance on the political scene and staged an ignominious exit were Mohd. Ali (1953-55), Chaudhuri Mohd. Ali (1955-56), H.S. Suhrawardy (1956-57), I.I. Chundrigar (1957, for two months) and Feroze Khan Noon (1957-58). On 8 October, 1958, President Iskander Mirza and General Mohd. Ayub Khan combined to stage a coup d'état. They dismissed the Noon Ministry, dissolved the Parliament, abrogated the Constitution and promulgated Martial Law. In the new set-up Mirza continued as President; Ayub became the Chief Martial Law Administrator as well as the Prime Minister. However, 20 days later, Ayub bundled off Mirza to London, assumed full powers as President and abolished prime ministership.

The Ayub Decade (1958-68). On assumption of office, the Ayub administration organized a gigantic campaign to clean the Augean stable. In a short time, corruption, blackmarketing, hoarding and other malpractices were brought down. Industry was given more freedom to expand and some agricultural reforms were introduced. In the political field, the discredited politicians were disqualified for five to six years from political activity. Basic Democracies—a four-tier administrative system—were introduced. The President and the National Assembly were to be elected by the 80,000 Basic Democrats—40,000 in each Wing. At the Centre, the President ruled almost autocratically, with a Council of Ministers, chosen by him from among the Parliament members and from outside but functioning entirely during his pleasure. In the two provinces, the

Governors held almost similar powers and had their Council of Ministers. The armed forces, bastion of ultimate power, were considerably strengthened and came to have a greater say in the affairs of the State. The armed forces were almost entirely manned by West Pakistan officers, among whom the Pathans had the most dominant voice. All army Chiefs so far have been Pathans. President Ayub claimed loyalty of an overwhelmingly large section of the armed forces.

Gathering of the Storm. Till 1965, President Ayub held absolute sway. However, the Indo-Pak war of that year proved the beginning of his undoing. Pakistan's armed forces were badly mauled at the hands of the Indian forces. Cracks occurred in the highest echelons of his regime after the Tashkent Agreement. Z.A. Bhutto, his ebullient Foreign Minister, bowed out of the Presidential Cabinet in 1966. In 1968 he fell gravely ill. Other factors that hastened his fall were the return of corruption, concentration of wealth in the hands of 20 West Pakistani families (including that of Gohar Ayub, his son), growing educated unemployment, student unrest and economic discontent accompanied by cultural alienation and political frustration in the NWFP and Baluchistan area of West Pakistan and whole of East Pakistan. At this time Bhutto seized initiative by most uncharitably baring some truths of the Indo-Pak war (not flattering to the Ayub image). He incited the students and workers to defy the authority. Almost simultaneously, Marshal Asghar Khan, a former Chief of Pakistan Air Force, General Azam Khan, a former Governor of East Pakistan, and S.M. Mursheed, a former Chief Justice of East Pakistan, jumped into the fray in opposition to the President. Ayub was now vulnerable, physically and politically.

The National Upsurge. By the end of 1968, Pakistan was in political turmoil. The three objectives of the opposition movement were restoration of democratic rights including scrapping of basic democracies, holding of free and fair elections on the basis of adult franchise and change in leadership—i.e., replacement of Ayub. As the year 1969 dawned, the country was in the grip of serious unrest, manifested by violent demonstrations by the students who fought pitched battles with the police. Life in the major cities came to a standstill. Army had to be called out to maintain order. In East Pakistan, thousands of persons including Maulana Bhashani, the pro-Peking leader of East Pakistani peasantry, were put behind the bars. President Ayub, in Asghar Khan's words, came to symbolize "all that is evil in our society". Mursheed called the Ayub Decade as a "decade of cancer".

On 4 February, 1969, President Ayub staged a strategic retreat when he invited the 8-party People's Democratic Movement for wide ranging talks. He was prepared to consider its eight demands, including restoration of parliamentary democracy, adult franchise and civil liberties, withdrawal of emergency and restrictive laws on press, release of detenus and introduction of educational reforms. He also offered to give East Pakistan a larger share in the governance of the country. He issued orders for the

release of Bhutto and withdrawal of Dacca conspiracy case against Mujibur Rehman and others. The opposition was still indecisive, weighing the pros and cons of a detente. As a fitting finale to this game of opposition appeasement, Ayub announced his decision not to run for presidency in 1970. The opposition leaders including Mujibur Rehman now decided to have parleys with the President. Bhutto and Bhashani, however, chose to stay away. Some foreign observers opined that Ayub's decision not to run for presidency in 1970 had followed the withdrawal of armed forces support from him.

The Talks. At the Round Table Conference in March, 1969, President Ayub accepted opposition leaders' demands for direct elections on the basis of adult franchise and restoration of parliamentary form of Government. The issues of provincial autonomy and dismemberment of West Pakistan One Unit were sought by the President to be referred to the National Assembly for a decision. He, however, personally felt that a weak Centre would lead to disintegration of the country. The East Pakistan leaders—Mujibur Rehman and Mursheed—felt dissatisfied and bitter over the outcome of these talks.

The Unrest Returns. The much-feared second phase of unrest erupted simultaneously with the holding of Government-opposition talks. Labour trouble broke out in the factories owned by the twenty odd capitalists. The 70-million East Bengalis renewed struggle for provincial autonomy. Radio Australia reported that 167 persons were killed in mob violence and 10,000 houses were burnt down in ten days in East Pakistan. The frenzied mobs hanged, beheaded and clubbed to death dozens of Ayub supporters after summary trials in East Pakistan villages. Corrupt elements and wrong-doers were executed. Streets of Dacca and other towns rang with the slogans "Awake Bengal, Arise Ben, I".

Back to Martial Law. To curb mob violence, East Pakistan and West Pakistan Governors were replaced. More troops, tanks and other equipment were despatched to East Pakistan. In a call to the people, President Ayub almost begged his countrymen "not to destroy Pakistan by indulging in violence and lawlessness." On 25 March, 1969, in face of increasing bloodshed and lawlessness that swept the country, President Ayub Khan stepped down from office, handed over all powers to General Yahya Khan, C-in-C of the Pakistan Army, and proceeded on three months' leave. On assumption of supreme powers, General Yahya Khan put the country under Martial Law and dissolved the National and Provincial Assemblies. All speeches and acts, aimed at inciting people and disturbing peace and law and order were banned. Indulgence in arson and loot, destruction of public or personal property, disruption of road, rail or air communications were to be severely punished under the Martial Law. Strikes, labour trouble and lockouts were banned. Expression of views as also organising of meetings and processions without permission were prohibited. Press was gagged. A peace of the grave descended on Pakistan.

grievances have perpetually bedevilled the mutual accord that should normally exist between neighbours. Pakistan never tries to cry out her patent grievance that India has not reconciled to partition—yet she herself has done pretty little to put the relationship on a rational basis. The relations reached an all-time low when Pakistan had the temerity to settle her so-called territorial disputes with India by means of force. She launched aggression in Kutch in early 1965 and tried to give it the appearance of a territorial dispute. She escalated it later in August by unleashing hundreds of armed marauders, both regular and irregular, in Jammu and Kashmir to start a pre-planned campaign of destruction, sabotage and sniping of Indian security forces.

Following is the chronology of important events that took place in 1965-1966 :—

1965

- 9 April Pakistani troops launch attack on the Indian post at Sardar on Kutch-Sind border.
- 23-24 April Pakistan deploys 14 battalions on Kutch-Sind border and uses tanks (American made).
- 29 April India gives the U.S.A. photographic proof of Pakistan having used the U.S. equipment against India.
- 11 May India and Pakistan agree to negotiate for cease-fire.
- 25 June India and Pakistan agree on a three-member arbitration Tribunal to give its award on the Kutch-Sind border.
- 30 June Kutch cease-fire agreement is signed.
- 5 August Large scale Pakistani infiltration all along the cease-fire line in Jammu and Kashmir takes place.
- 26-30 Aug. Indian forces cross cease-fire line in the Uri sector ; Haji Pir Pass and other Pak posts are captured.
- 1 Sept. Pakistan launches a heavy regular attack in the Chhamb sector (Jammu).
- 6 Sept. Indian forces cross into West Pakistan from Punjab border at three points. President Ayub declares: "We are at war with India".
- 8 Sept. Indian forces march into Pakistan at two more places. Gadra town in Sind is occupied by Indian forces. Advance towards Sialkot begins.
- 20 Sept. U.N. Security Council formally asks India and Pakistan to end fighting within 48 hours.
- 22 Sept. India and Pakistan agree to a general cease-fire from 03.30 hrs. in response to U. N. Security Council's call.

1966

- 4-8 Jan. Talks at Tashkent among Prime Ministers Shastri and Kosygin and President Ayub.
- 10 Jan. Tashkent Declaration is signed. Prime Minister Shastri dies.
- 22 Jan. Indian and Pakistani Chiefs of Staff agree on a plan for disengagement of troops in all the sectors.

The Kutch Award. By the Indo-Pak agreement of 30 June, 1965 the Kutch demarcation issue was referred to an international tribunal comprising Mr. Gunnar Lagergren, a Judge of the Swedish Supreme Court (Chairman), Mr. Alis Bebler of Yugoslavia (India's nominee) and Mr. Nasorullah Entezam of Iran (Pakistan's nominee). The Pak claims on Kutch territory were based on the assumption that Rann of Kutch is a landlocked sea or lake and, therefore, the Indo-Pak boundary in this region runs along the middle of the Rann, instead of the northern edge where the partition award placed it in 1947. This edge formed the boundary between British Indian province of Sind and the Kutch State. The latter acceded to India after the vivisection of the country.

The Award of the Tribunal was announced on 19 February, 1968. It was a majority judgment—the Chairman and the Pakistan nominee agreeing on the Award and India's nominee recording dissenting judgment. Out of the 3,500 square miles of Rann area, Pakistan was awarded about 350 square miles including Piroi Valo Kun, Dhara Banni, Vigokot, Biar Bet and Chhad Bet. "These areas, the judgment claimed, 'appear as extension' of mainland of Sind," where "a continuous, intensive Sind activity, meeting with no effective opposition from the Kutch side is established." The remaining 90 per cent of the Rann territory was awarded to India.

Despite the fact that the Tribunal's Award was in excess of jurisdiction and based on political rather than on legal or factual considerations, India accepted it primarily as a demonstration of her goodwill towards Pakistan. The opposition parties in India pleaded that the country should wriggle out of the commitment but the Government stuck to its oft-repeated stand that the Award was linked with national honour and prestige and its acceptance was the mirror of Indian reasonableness. The opposition to the Award was based on the points : (a) it was in excess of jurisdiction and went beyond the pale of terms and conditions ; (b) it was a political Award delineating the boundary as it should be and not as it was. An Award based on "equitable consideration" and "peace and stability" of the region amounted to judicial misconduct ; (c) Determination of the extent of boundary on the basis of "activity" in the area and not legitimacy or by right was highly controversial and objectionable ; (d) the determinants of Kutch boundary could have adverse repercussions (from the Indian point of view) on the Sino-Indian border dispute.

The Indo-Pak border was physically marked on ground on the basis of the Kutch Award and territories were handed over to respective countries in 1969.

The Wooing Game. Pakistan is at present being cultivated simultaneously by three great powers—the USA, the Soviet Union and Communist China. Ever since the Sino-Pak marriage of convenience which sprang from their common hatred towards India, Pakistan has received many instalments of arms and other hardware from China. The Chinese are said to have doled out armour to Pakistan to check the latter's drift towards USA and

USSR. The USA, whose affection for "the strongest Asian ally" had dimmed during the presidency of Kennedy and Johnson and more particularly after the stoppage of lethal weapons to Pakistan in the wake of Indo-Pak war of 1965, is back at the wooing game. With the sole object of weaning Pakistan away from China and USSR, she is now prepared to resume arm supplies to Pakistan under one pretext or the other. Having travelled far away from her past antagonism towards Pakistan, the USSR is also willing to offer military and economic assistance. This is aimed at preventing Pak advances towards China and USA. Pakistan, on her part, is playing this game skilfully and gaining immensely by playing one power against the other.

Pak Arms Deals. Pakistan has recently acquired (or placed orders for) a number of US-built C-130 transport aircraft from Iran, 25 Mirage-4 planes and a fleet of five Daphne class submarines from France, 12 mini-submarines from Italy, 90 F-86 sabre jets from Germany, 5 squadrons of Mig-19, one squadron of IL-28 planes and some tanks from China and 120 of the promised 300 tanks from USSR. While the Pak purchases from the Western countries were with the tacit American approval, the USA herself held on to its policy of embargo on arms supplies till late 1969. This policy was, however, partially reversed in 1970 when President Nixon agreed to lift the arms embargo, as a "very special limited one-time exception" and to sell to Pakistan, at a ridiculously low price, 6 F-104 aircraft, 7 B-57 bombers, 300 armoured personnel carriers, 4 maritime patrol craft and some odd equipment. Pakistan had earlier in 1968 received 200 tanks through third-party deals. In another request, Pakistan has expressed her willingness to surrender all the F-104 planes in exchange for one squadron of F-105s. The equipment being received by Pakistan is marked for its offensive capability.

Pakistan has, since the Indo-Pak conflict of 1965, doubled her armed forces as well as the defence budget. Her armed forces strength has gone up from 2 lakh to 3.5 lakh and defence budget from Rs. 140 crores in 1965 to Rs. 270 crores in 1970. She has established a second Naval Base in East Pakistan at Khulna. She now has a wider variety of tanks, combat planes and warships. Her sources of arms supply are no longer limited. She is drawing upon almost all the major arms suppliers of today—the USA, the USSR, France, Germany, Italy and China. Between 1954 and 1965, the USA had supplied Pakistan, free of cost, 640 tanks, sophisticated aircraft like B-57, F-104 and F-86 etc. worth \$ 2,000 million.

Escalation of Tension. Pakistani efforts at amassing offensive armour and her augmentation of armed strength have disturbed the military balance in the Indian sub-continent. Since Pakistan openly declares India as her only enemy in the world, her intentions become adequately clear. The powers that are arming Pakistan at present are, by their action, introducing fresh complications into the already delicate situation and are escalating tension in the region. They are also indirectly forcing India to

shop for armour and planes to offset the Pak arms gains. Some say that, by offering military supplies to Pakistan, these powers were consolidating their areas of influence in that country in view of Pakistan elections and were anxious to see a friendly government installed there. Sane people of the world, however, feel that these reasons hardly make any sense for these powers "to kindle the sparks of conflict in South Asia."

"The Silk Road". Pakistan and Communist China have jointly built a metalled, all weather road linking Gilgit (in Pakistan occupied Kashmir) and Kashgar (in the Sinkiang Province of China). Passing through the 16,000 ft. high Mintaka Pass, the road follows the trace of an ancient mule track known as the Silk Road for the last about 1,000 years. With the building of a 400 ft. span bridge over the Gilgit river in July, 1970, this vital link between China and Pakistan through usurped Kashmir territory has been completed. India has taken strong objection to the construction of this road on grounds of sovereign rights, international morality, and a possible threat to defence of India. China, by her attitude, appears to be trying to share the spoils of aggression with Pakistan, who herself has no legal or constitutional *locus standi* in the matter. The whole of Kashmir being Indian territory by all canons of law and propriety, Pakistan has no common frontier with China. As it opens up a land route between aggressor China and inimical Pakistan, the road poses a real threat from the north. Reports indicate that Chinese arms are being stockpiled in the Gilgit region for possible use against India.

The Peace Prospects. The frenzy in which Pakistan is trying to collect arms and equipment from all sources mirrors her designs towards India. Of late, she is making much noise about Ganga waters in the Eastern region where she objects to India constructing a barrage at Farakka. She had inflated her genuine need of 3,000 cusecs of Ganga waters to 20,000 cusecs and then suddenly to 49,000 cusecs. Moreover, after stalemating the issue for years, she is now pressing to resolve it on a political plane with a view to internationalizing the issue. This will help her invite third-party intervention as well as large compensatory resources as in the case of Indus waters. All efforts at a settlement on technical level have proved infructuous. Other obstacles in the way of normalization of Indo-Pak relations are Pakistan's aggressive posture on Kashmir, her continued misappropriation of Indian cargo, seized during 1965, refugee exodus from East Pakistan to India, Pakistan's occasional efforts to revive the Kashmir issue and her leaders' frequent anti-India outbursts within Pakistan and in foreign countries.

China

China's Rough Tactics. The years 1967 and 1968 saw in China a new kind of upsurge, fantastic crudeness of behaviour and rough tactics. The deliberate and obstinate defiance of accepted diplomatic norms by Chinese embassy personnel in various capitals and by demonstrators in Peking followed a consistent pattern that showed some measure of central coordination and

planning. After Chinese failure to topple the government in Indonesia, Peking received many setbacks. In 1966 four African countries—Burundi, Dahomey, the Central African Republic and Ghana—broke diplomatic relations with China. In 1967, the Chinese started their usual trouble in Macao and forced the Portuguese to publicly apologize to Peking. The Chinese communists tried the same tactics in Hong Kong. Britain, however, put down the uprising with a heavy hand. In the meantime, the British Mission in Peking was attacked and sacked. In February and August, 1967, Russian Embassy was the target of Chinese mobs. Russians were virtual prisoners in the Embassy compound surrounded by a dense wall of screaming demonstrators. The two countries enforced visa regulations on each other's nationals. Some Russian officials were also ordered out of China.

In 1967, China provoked incidents outside her Embassy in Indonesia involving widespread mob violence. In Peking, the crowds sacked the Indonesian Embassy, resulting later in rupture of diplomatic ties between the two countries. Sino-Burmese relations touched a new low when Peking accused Burma of genocide of Chinese population residing in Burma. China harassed and squeezed out hundreds of Nepali traders in Tibet on the pretext of smuggling and espionage. Other victims of the Chinese rough treatment were Mongolia, Kenya and India whose Missions in Peking were sacked and the diplomats subjected to intimidation.

The Cultural Revolution. In February, 1966, Mao Tse-tung, the Chairman of the Chinese Communist Party and its chief theoretician, evolved the Proletarian Cultural Revolution programme. With the active assistance of Lin Biao, the Defence Minister of China, the People's Liberation Army and the 22-million strong Red Guards, Mao launched the revolution in Peking where Peng Chen, the Capital's Mayor and a protégé of President Liu Shao-chi, was the first casualty. The revolution entered the decisive phase in December, 1966 when efforts were made to capture the factories and other production units. The Red Guards tried to take over trade unions, local administration and party apparatus. This move split the Communist Party and divided the people's loyalties. While the Red Guards were able to ransack foreign embassies and missions in Peking without the slightest resistance, they met strong opposition from workers in Shanghai, Nanking and other industrial centres. Red Army was also acutely divided. There were differences among the military commanders as among the political leaders. With the recrudescence of rebellious activity in Sinkiang, Szechwan, Yunnan and Kwantung, Mao had to order a stop to the Red Guard activities in Peking and elsewhere from 15 September, 1967.

[Promotion Exam. (Army) Part 'B', Oct., 1967]

The Purge. The Cultural Revolution did sizable damage to economic development that China had achieved since 1947. It had seriously affected production in factories and farms. Mao

Tse-tung had at long last realized that economic growth and political stability were inter-related and went together. But the Revolution had achieved Mao's immediate objective. Citadels of resistance to Maoism, symbolized by President Liu, Shao-chi and Peng Chen, had been liquidated. About 50 Army Generals had been sacked. Many dedicated communist workers who had worked with Mao throughout his struggle against Chiang Kai-shek were purged and humiliated. Liu Shao-chi, who was holding on with the help of political and army factions, was ousted in 1969.

The Nuclear Explosion. On 14 Oct., 1970, China conducted another nuclear explosion of two to three megaton capacity. Eleventh in the series since the programme started in 1964, it was an atmospheric test and was recorded by the Bhabha Atomic Research Centre (BARC) in India. Of the ten earlier tests, some were atmospheric and others underground tests.

Chinese Nuclear Missiles. When an Australian journalist, after his visit to Lop Nor atomic installations in 1969, predicted that China was on the threshold of testing an ICBM with a range of 6,000 miles, some experts scoffed at it as sheer sensationalism. According to them, China had not yet passed through the IRBM-MRBM stage of nuclear missiles of 1,500 to 2,000-mile range and would take another three years to evolve an ICBM. However, on 25 April, 1970, China successfully fired its first space satellite in earth orbit and gave ample evidence of her breakthrough in space technology. It also demonstrated her capability to launch an ICBM. The satellite weighed 173 kg. and completed an earth orbit every 114 minutes. Western observers conceded that the Chinese missile programme was faster than expected and represented a serious challenge to the balance that the super powers had maintained in ultimate weapons. They also feared that a Chinese missile may be readied soon and test-launched across Indian territory with splashdown in the Indian Ocean near Zanzibar.

Thaw in China-World Relations. Chinese attitude towards world nations has of late shown a change for the better. She appears willing to normalize relations with many of the countries that received crude and rough treatment at her hands during the last few years. China has since resumed full diplomatic relations with the Soviet Union. She has, through diplomatic channels, expressed her desire to better her relationship with India and to exchange ambassadors. Canada has agreed to establish ambassadorial relations with China. Britain may soon exchange ambassadors with her. Italy, Belgium, Austria and Chile are inclined on Chinese recognition. African and Asian nations that broke with China in 1967 may now be willing to negotiate. Even USA is seeking to reach accommodation with Peking on the basis of "Two-China" theory. This change in Chinese attitude may be attributed to the following factors :—

1. China has alienated almost all important countries of the world. She has weakened the communist movement and exploded the myth of communist monolith. But she can no longer grow in isolation.

2. She appears to have established a strong industrial base and is currently switching on to consumer and small industries for which she requires raw or semi-processed materials from abroad. Her present haughty attitude is hardly conducive to international trade relations.

3. She has developed a nuclear bomb and an ICBM. She has already launched a space satellite. She can now speak from a position of strength.

4. She is afraid of Japan's emergence as the greatest industrial power in Asia with tremendous political and military potentialities. She has disliked cordial relations developing between Japan and the USSR.

5. With the stabilization of Vietnamese situation, a comparative lull in Cambodian fighting, favourable reaction to the Nixon Doctrine in some South East Asian countries and the British decision of continued presence in the East appear to the Chinese as the success of democratic pattern as opposed to Maoism.

6. China feels that normalization of relations with her neighbours and others would facilitate her admission to the UNO as a super power.

Sino-Indian Border Conflict

China's Territorial Claims. Up to the end of 1956, China never made a mention of her claims on the Indian territory and gave India to understand that there was no border dispute between the two countries. During his visit to China in 1954, Prime Minister Nehru drew the Chinese Prime Minister Mr. Chou En-lai's attention to certain Chinese maps showing Indian territory as belonging to China. The Chinese Prime Minister explained that those were Kuomintang maps and New China had no time till then to revise them.

The fact was, however, different. Nearabout 1954, the five-year old Communist regime of China had started incursions into Indian border areas. India did not give it any publicity in the hope that "peaceful solution to the dispute could be found by agreement by the two countries without public excitement on both sides". In 1957, China constructed a road across Indian territory in the Aksai-Chin area in Ladakh and arrested and ill-treated an Indian patrol party in that area in 1958. In 1958 at the invitation of the Government of India, talks were held between Indian and Chinese representatives on the question of Barahoti, in the middle sector on the border of Uttar Pradesh, which the Chinese claimed as their territory and to which they referred as Wuje. It transpired during the discussions that the Chinese did not know much about the areas they claimed as theirs. In 1959, an armed Chinese party crossed the north-east frontier of India and occupied the Indian frontier post of Longju. Several other incidents were carried out by this time.

China cast aside the mask in September, 1959 when Prime Minister Chou En-lai wrote to Prime Minister Nehru giving details of the Chinese demand, covering 50,000 sq. miles of Indian territory in Ladakh and NEFA. The Chinese excuse for this belated demand

was that earlier the time was not ripe and that the Chinese government was preoccupied with other matters. China claimed about 14,000 sq. miles in Ladakh, 32,000 sq. miles in the NEFA and smaller areas on the border of the Indian States of Himachal Pradesh and Uttar Pradesh. In addition, she also claimed some areas in Bhutan and Sikkim, which are attached to India by special treaties. Up to the time, it may be recalled, no Chinese Government had ever questioned India's jurisdiction up to the customary and traditional alignment of the border.

The Extent of India-China Border. The Indian alignment of the boundary generally follows the commonly accepted watershed principle. (A watershed is a mountain range dividing two river systems or basins). In the **Western Sector** (Ladakh), the boundary lies along the watershed between the Indus river system in India and the Yarkhand and Yurung Qash systems in China. This boundary is a traditional one dating back at least ten centuries. It has been well known and accepted by both sides. It received at least twice, in 1684 and 1842, further confirmation and sanction by treaty.

In the **Middle Sector**, the boundary follows the watershed between the Sutlej in Tibet and the Ganges in India. It separates Tibet from the Indian States of Himachal Pradesh and Uttar Pradesh. This boundary is traditional and has been confirmed by literary and historical sources and attested by travellers such as Moorcroft (1819), Gerad (1821) and Thomas Hutton (1838).

In the **Eastern Sector**, the boundary follows the crest of the Himalayan range forming the watershed between the northern tributaries of the Brahmaputra and the southern tributaries of the Tsangpo. The boundary in this sector is traditional and attested by various sources including religious scriptures and travellers' accounts. The entire tribal area in the eastern sector up to the Indian alignment has been under continuous Ahom and later British Indian administration. This traditional boundary was formalized by a treaty between India, China and Tibet in 1914 at Simla and it came to be popularly known as the McMahon Line. The boundary was marked on a map attached to the draft Convention and was initialled by the Plenipotentiaries of India, China and Tibet. The British Indian representative at the Conference was Sir Henry McMahon, after whom the boundary was named. China has, however, disputed this treaty on the grounds that China had never accepted the 1914 agreement and that Tibet had no right to enter into any agreement with India. It may, however, be recalled that representatives of China and Tibet had participated in the Conference on equal footing and on equal terms and China had never questioned the *bona fide* of the Tibetan representative.

Events leading to the Conflict of 1962. In November, 1959, India proposed that pending a peaceful settlement of the dispute, India should withdraw her troops to the line which China claimed as its boundary in Ladakh, and that Chinese troops should withdraw behind the traditional and customary boundary alignment shown in the Indian maps. China rejected the proposal. In May,

1962 the Government of India renewed their proposal of troop withdrawals in Ladakh, for the peaceful settlement of this issue and showed her willingness to permit the use of Aksai Chin road, constructed by the Chinese in the Indian territory, for civil traffic. Chinese did not agree to this. Later in August, India continued her efforts to persuade China to discuss the whole boundary issue in the light of the report of the officials submitted in December, 1960. She expressed her anxiety to China to restore the *status quo* of the boundary in Ladakh region, which had been altered by force during the past five years by China. While preliminaries for proposed talks were being settled, the Chinese launched their invasion of India. A little earlier she had surreptitiously occupied about 12,000 sq. miles of Indian territory in Ladakh.

The Armed Conflict. The Chinese forces crossed the international border in NEFA on 8 September, 1962. They attacked the Indian frontier post at **Dhola** (NEFA) on 21 and 28 September but the attacks were repulsed. The post, however, fell to the Chinese after the massive attack of 20 October. On 22 October, the town of Kibitoo (Lohit Division of NEFA) was attacked and captured by the invaders. Other places overrun by the Chinese were Tawang and Bumla (22 Oct.), Walong (16 Nov.), Sela (18 Nov.) and Bomdila (19 Nov.). In the Western sector (Ladakh), Damchok area was attacked on 27 October. Indian troops withdrew from Daulat Beg Old on 5 November; Chushul area was heavily shelled by the Chinese on 17 November with the result that two of the posts fell to the Chinese the next day.

The Chinese announced their unilateral cease-fire on 20 November to be effective from the midnight of 21-22 November, 1962. By this time, the Chinese had occupied another 2,500 sq. miles of territory in Ladakh and about 8,000 sq. miles in NEFA. In accordance with their unilateral declaration of cease-fire, the Chinese forces withdrew in the NEFA area up to the McMahon Line, as arbitrarily fixed by China.

The Colombo Proposals for the Settlement of the Dispute. The six non-aligned nations—Burma, Cambodia, Ceylon, Ghana, Indonesia and the U.A.R.—met at Colombo from 10 to 12 December, 1962 to formulate proposals for the peaceful settlement of the Sino-Indian border dispute. Before making them public, the proposals were personally presented to China by the Ceylonese Prime Minister Mrs. Bandaranaike during her visit to that country (31 Dec., 62—9 Jan. 63) and to India (10—15 Jan., 63). After receiving clarifications on certain points, India informed the six powers of her acceptance in toto but China, after keeping quiet and then giving vague response, ultimately rejected the proposals. The proposals, made public on 15 January, 1963, contained the following—

Western Sector. (i) In the Western Sector (Ladakh) the Chinese should withdraw 20 kilometres from the line of actual control between the two sides on 7 November, 1959. (ii) Indian forces should remain at their then military positions. (iii) The area vacated by the Chinese should be a demilitarised zone, to be administered by civilian posts of both sides.

Eastern Sector. (iv) The line of actual control in the area recognised by both the governments should serve as a cease-fire line in their respective positions. This meant that the Indian forces could move to the south of the McMahon Line except for two areas—the Thagla Ridge and Longju—on which there was difference of opinion.

Middle Sector. (v) *Status quo* should be maintained in the area and the dispute should be solved by peaceful means.

Later Developments. On 8 October, 1964, at the time of the Non-Aligned Nations' Conference at Cairo, the Chinese Government issued an official rejection of the six-nation proposals for settlement of the border dispute. A few days later, on 16 October, China exploded her first nuclear device and her attitude thereafter became more obstinate. During 1965, China maintained her unfriendly posture and kept tension alive on her borders with India. During the Indo-Pak hostilities, she threatened to create a second front against India and issued a serious ultimatum which, however, automatically collapsed when India and Pakistan accepted a cease-fire. She was the only country in the world which scoffed at the Tashkent agreement that paved way for the peaceful settlement of Indo-Pak disputes.

South Vietnam

(*In continuation of p. 89*). The present phase of fighting started when the Americans, in the face of stalemate in land-fighting, took the air war to the North Vietnamese territory in an attempt to force North Vietnam to come to the negotiating table. Hundreds of thousands of tons of explosives were dropped in North Vietnam but without any change in the military situation. Both sides held on to their positions. The Viet Cong, though comparatively weaker now, had not been vanquished. North Vietnam was, no doubt, shaken by American bombing but it had not broken her will to fight.

Tet Offensive. While ding-dong battles continued to rage sporadically between the Viet Cong and the Americans, a state of comparative calm prevailed in Vietnam in January, 1968. True to their character and strategy, the Viet Cong suddenly started their Tet offensive which took their adversaries by stunning surprise. The Viet Cong and North Vietnamese infiltrated in thousands into important towns and military installations and held 28 of the 44 provincial capitals to ransom. In Saigon itself, they destroyed the radio station, attacked U.S. military headquarters, captured the capital's airport, occupied some areas of the city and menaced the Bien Hoa airbase near the Capital. Desperate bombing had to be resorted to by the Americans to flush the Viet Cong out of their Capital strongholds. According to US estimates, Hanoi forces in South Vietnam numbered 80,000 men.

The Bombing Halt. In view of the belated realization that war in Vietnam could not be won by military means and largely forced by the mounting opposition in USA to continued involvement in Vietnam without decisive results, President Johnson, on 1 April, 1968, announced partial suspension of bombing over North

Vietnam. He described this as a "first step towards de-escalation of the conflict as a prelude to holding peace talks" and expressed a hope that Viet Cong would reciprocate by matching de-escalation. A couple of days later, North Vietnam expressed her willingness to negotiate but on the "unconditional cessation of US bombing and all acts of war". By 3 May, 1968, North Vietnam and USA had agreed to start peace-dialogue at Paris from 10 May. South Vietnam, however, continued to frown at negotiations with North Vietnam.

The Peace Talks. The two delegations arrived at Paris by 9 May, 1968. The American and North Vietnamese negotiating teams were headed by Mr. Harriman* and Mr. Xuan Thuy respectively. While the negotiations went their tortuous way and the issue stalemated, two important decisions were taken. President Johnson announced total halt in bombing over North Vietnam and the Paris negotiating teams reached agreement to broadbase the talks by expanding their delegations to include National Liberation Front (Political wing of the Viet Cong) on the N. Vietnamese side and South Vietnam on the American side. The latter move was immediately responded to by the Communists who sent a NLF delegation headed by Mrs. Nguyen Thi Binh to Paris. Saigon fretted and fumed at the prospect of encountering the NLF as an equal at the negotiating table. It was, therefore, after considerable American pressure and explaining that South Vietnam condescended to join the Paris talks in December, 1968. Subsequently a delegation, headed by Vice President Cao Ky, joined the peace talks.

While no workable solution of the Vietnamese impasse is in sight, the talks at Paris continue. The progress is, however, deadlocked because of the American preference to concede ground inch by inch and the NLF and North Vietnamese demand that the Americans must quit Vietnam lock, stock and barrel—and immediately. The Nixon Administration is prepared to enter into a secret agreement with North Vietnam if (i) it ensured a reciprocal withdrawal from South Vietnam of both American and North Vietnamese troops ; (ii) South Vietnam were strong enough to stand on her own legs ; and (iii) the NLF and North Vietnamese activity in South Vietnam were substantially reduced. Rejecting all American peace moves as impracticable and unacceptable, the NLF Delegation put forward its 10-point proposal which included a provisional coalition government representing all shades of South Vietnamese opinion, holding of free and democratic elections under this government, no imposition by either side of its "political regime" in the transitional period and the establishment by this government of diplomatic, cultural and trade relations with all countries including the USA.

The Nixon Plans. In a major policy statement with regard to ending war in Vietnam, President Nixon, in a broadcast on 15 May, 1969, sought mutual withdrawal of all alien forces, in a phased programme, in South Vietnam and also North Vietnamese

* Mr. David Bruce heads the American delegation at present

forces from Cambodia and Laos. He, however, ruled out unilateral withdrawal of American forces or abandonment of American pledges to South Vietnam. He was prepared for any honourable settlement with Hanoi. He also expressed his willingness to accept neutrality for South Vietnam if the people there wanted it. The proposal was summarily rejected by the Communist nations.

With a view to breaking the uneasy stalemate in South Vietnam and elsewhere in the region, President Nixon, in October 1970, presented yet another proposal this time an overall package deal for the whole Indo-China region. The Plan envisages: (i) an immediate cease-fire, with both sides holding their present positions, with international supervision, no build-up of military strength, and extension of the cease-fire throughout Indo-China; (ii) Broadening of the Paris Peace Talks to include Laos and Cambodia; (iii) Withdrawal of US forces by another 95,000 men by spring of 1971, bringing the total to 260,000; (iv) A political settlement that meets the aspirations of all South Vietnamese; (v) Immediate and unconditional release of all prisoners of war held by both sides.

The American Pull-Out. President Nixon and President Thieu met at the Midway Islands on 8 June, 1969, to hold high level discussions on Vietnam. The same day came the Nixon announcement, to which President Thieu agreed, that 100,000 of the 540,000 American troops would pull out of troubled South Vietnam by the end of 1969. President Thieu was sure that South Vietnamese were able to replace the American combatants. There were rumours that another 75,000 American troops would leave Vietnam by the end of 1970 but further pull-out would depend on a matching action by the NLF and the North Vietnamese.

Vietnamization Programme. Vietnamization is the practical manifestation of the Nixon Doctrine which envisages American withdrawal from actively fighting other nations' wars. Vietnamization means that the conduct of South Vietnamese war is the responsibility of South Vietnam though she, like any other country facing aggression, can expect all material and moral help in her fight. Physical deployment of American forces will, therefore, be restricted to the minimum if not entirely dispensed with. A tacit approval of the concept of Vietnamization was provided by President Thieu of South Vietnam when he said in July, 1970 "if USA would like to disengage militarily, they have to engage economically." He assured the Americans that, if properly helped financially, South Vietnamese would manage on their own. As the present plans go, the US forces may largely pull out of South Vietnamese combat by 1 May, 1971.

Latest Developments. Following President Nixon's five-point peace plan (discussed elsewhere) of Oct, 1970, the Americans appear firm on (i) that they would not force South Vietnamese into a coalition government with the NLF and (ii) a negotiated package deal must be evolved to solve the issue—meaning thereby that both Americans and North Vietnamese will have to quit South Vietnam simultaneously. Communists, on the other hand, are prepared

to negotiate for a lasting peace on honourable terms but only after the complete withdrawal of American forces from Vietnam.

Governments Galore in South Vietnam. In addition to the legally constituted Thieu government at Saigon, two more governments have appeared in South Vietnam. A provisional revolutionary government has been formed somewhere in the "Viet Cong liberated areas" of South Vietnam with Mr. Huynh Tan Phat as Chairman and Prime Minister and Madame Nguyen Thi Binh (leader of the NLF delegation at the Paris Peace Talks) as Foreign Minister. More drama was injected into the issue when, quick on the heels of the NLF Government, the religious and intellectual groups of the militant Buddhists set up a shadow neutralist government in Saigon (membership of which was kept a secret) to replace the present government there.

North Vietnam

Death of President Ho Chi-Minh. President Ho Chi-Minh, the 79-year old Communist Head of North Vietnam and a legendary figure, passed away on 3 September, 1969 after a fatal heart attack. Within hours of the announcement of President Ho's demise, Mr. Chou En-lai came down to Hanoi at the head of a Chinese delegation to represent his country at President Ho's funeral but suddenly returned to Peking two days later on the eve of the arrival of the Russian delegation under the leadership of Prime Minister Alexie Kosygin. No funeral was conducted for the departed President; only a funeral oration was delivered by Mr. Le Duan, First Secretary of the North Vietnamese Communist Party. President Ho's body has been kept embalmed and would be preserved like Lenin's in Moscow. Mr. Ton Duc Thang, Vice-President of North Vietnam, has taken over as the new President of the country.

Burma

India-Burma Agreement. India and Burma signed a border agreement at Rangoon on 10 March, 1967 for formally delimiting and demarcating the boundary between the two countries. The Instruments of Ratification were exchanged between the two countries in Delhi on 30 May, 1967. India-Burma border is about 1,450 kilometres long from its southern extremity to the northernmost point which is the tri-junction of the boundaries of India, Burma and China. As the matter of tri-junction is under dispute between India and China, it has been provisionally fixed in the treaty at the Diphu Pass. According to India, the tri-junction lies about $5\frac{1}{2}$ miles further north of Diphu Pass whereas China puts it at a place about 5 miles south of Diphu Pass. It may be pointed out that there has never been any dispute between India and Burma over the existing boundary. The agreement has merely formalised officially the delineation and it would in no way prejudice Indian claim for 70 to 72 square miles of territory that lay at the tri-junction of the boundaries of India, Burma and China. The physical demarcation of the boundary is already in hand.

Ceylon

The Kachchativu Dispute. Kachchativu is a desolate, half-coral, half-sand island, about a mile long and half a mile wide, situated in the Palk Straits between India and Ceylon. A smugglers' haven; it is completely uninhabited, its only building being a church shed where fishermen from India and Ceylon gather in March every year to celebrate the feast of St. Anthony, their patron saint. The ownership of the island is in dispute since 1956. India claims the island as Indian territory because it formed part of the zamindari estate of Raja Ramnad. The dispute came to the surface when Ceylon tried to extend her unilateral *de facto* control over the island and her navy started patrolling the area. As both India and Ceylon have shown willingness to settle the issue in a peaceful, friendly manner, meaningful negotiations are going on between the two countries for an amicable solution.

New Government. The Sri Lanka Freedom Party (SLFP)-led leftist coalition won a landslide victory in the Ceylonese general election held in May, 1970. SLFP itself secured 90 seats in a house of 157 members against 17 seats won by (former) Prime Minister Senanayake's United National Party. Smt. Sirimavo Bandaranaike, leader of the SLFP-led leftist coalition, was sworn in as Prime Minister on 29 May. She has headed the country's government for the second time, her earlier term being from 1960 to 1965.

Ceylon to be a Republic. Ceylon has decided to snap her dominion ties with Britain and to become a sovereign, independent republic. On 19 July, 1970, the Ceylonese Parliament transformed itself into a Constituent Assembly which will prepare a new Constitution, embodying a socialist pattern of society and such safeguards as fundamental rights and national sovereignty. The country is also proposed to be renamed as Sri Lanka Dvipa.

Indians in Ceylon. Of the 1.2-crore population of Ceylon, people of Indian origin number about 8.5 lakhs. These people were some years ago rendered stateless. In accordance with the Shastri-Sirimavo Bandaranaike agreement of 1964, India is to receive back over a period of 15 years 5.50 lakhs of them and Ceylon is to grant citizenship rights to 3 lakhs. India has already registered 60,000 persons and actually taken back 17,600 of them. Ceylon has so far granted citizenship to about 10,000 persons.

Nepal

The Susta Issue. Susta is an island, about six to ten sq. miles in area, situated in the Gandhak river on the Indo-Nepalese border. Of late, Nepal has been advancing her claim to this island. She further insists that the new demarcation should be on the basis of maps of 1817. India's case on the issue is that there is no dispute over Susta. The Indo-Nepalese border stands already demarcated fully on the ground and does not require re-demarcation. It only needs to be re-located because the boundary pillars had been washed away owing to the change of course of the Gandhak. India is, therefore, willing to have a joint

survey with Nepal to re-locate the Indo-Nepalese boundary (on the Gandhak river) from Triveni Ghat on Nepal-Bhutan border to the trijunction of Nepal, Bihar and Uttar Pradesh on the basis of the existing agreements between the two countries. India and Nepal have since decided to constitute a joint boundary team to re-locate the border in the Susta region and elsewhere. The other areas where similar doubt has arisen are Mechi in Eastern Nepal and Mahakali in Western Nepal.

Kathmandu-Kodari Road. Inaugurated on 26 May, 1969, this highway connects Nepalese capital of Kathmandu with Tibet. This strategic road has been constructed with the Chinese aid.

India-Nepal Relations. The outstanding matters between India and Nepal are the renewal of the India-Nepal Trade and Transit Treaty of 1960 and withdrawal of Indian Army personnel from Nepal. In May, 1970 Nepal asked India to close down her Military Liaison Group in Kathmandu. In July, she was reported to have withdrawn recognition to this 28-member Indian Mission. Three rounds of talks on the renewal of trade and transit treaty have taken place at New Delhi but without any success. Nepal has chosen to press some of her demands that India could not possibly agree to. Nepalese demanded; (i) separate treaties on trade and transit; (ii) provision of a 3-lakh sq. ft. area at the Calcutta port for transit as also allotment of a piece of land at Haldia to be developed by Nepal as an extensive storage facility for her export and import trade; (iii) road transport facilities between Nepal and the area of transit; (iv) introduction of Nepalese currency in India-Nepal trade; and (v) trade route to Pakistan through Radhikapur. These demands are weighted heavily to Nepal's interest.

While India is sympathetically disposed towards Nepal's genuine needs, she has felt greatly exercised over the extent of their demands about transit facilities, as 90 per cent of Nepalese trade is with India. India fears that these facilities may be used for deflection of trade -import of foreign goods in Nepal followed by their diversion to Indian markets across the open India-Nepal frontier. Deflection of trade has cost India heavily in the past.

Indonesia

In a 120-page report, Indonesia's supreme policy-making People's Consultative Congress recommended in February, 1967, that President Sukarno be stripped of his title and position and that General Suharto be appointed Custodian of the Presidency (in other words Acting President). The report charged that (i) President Sukarno knew of the coup of 30 September, 1965, (ii) he was hand in glove with the Indonesian Communist Party Chief, D.M. Aidit and (iii) he had given protection to the conspirators like Air Force Chief Dhani and Foreign Minister Dr. Subandrio.

In March, 1967, General Suharto was appointed Acting President till the next general elections. This ended the 21-year old unchallenged rule of President Sukarno. Dr. Sukarno was debarred from taking part in political activity. He was prohibited from using

his former titles of President, Congress Mandatory and Armed Forces Chief. He was confined in his Bogor palace where he died in 1970.

Malaysia

• **Race Riots.** Malaysia witnessed serious race riots in 1969. The trouble arose when the processions, taken out by both Malays and Chinese to celebrate their electoral victories, clashed with each other. Later the trouble spread to other cities. The riots were so serious that the Malaysian Government had to impose curfew in the troubled States and call up territorial troops as well as the reservists to reinforce the Police. As the riots spread, a state of emergency was declared in the country on 15 May, 1969. A supreme body known as the National Operations Council, was formed under the leadership of Tun Abdul Razak, Deputy Prime Minister, with absolute powers. The death toll rose to 500, mainly Chinese but having a sprinkling of Indians. By the last week of May, Malaysia had returned to normal, battle-weary and battered. Recrudescence of racial strife after 24 years had put the country's economy completely out of gear.

Malaysia is a federation of 13 States including the former British colonies of Sarawak and Sabah with a population of over 10 million, comprising Malays (39%), Chinese (37%), Indians (10%) and others (14%). While Chinese and Indians command 95 per cent of the country's business, the Federal and State services are predominantly run by the Malays.

The Sabah Dispute. Occupying the northern tip of Borneo Island, Sabah was a British colony till 1963 when it became a part of the Federation of Malaysia. It has an area of 29,388 sq. miles, is sparsely inhabited and has potential timber and mineral resources. Philippines claims this territory on the contention that it was fraudulently sold to the British in 1878 by its ruler for £ 570. Malaysia contends that Sabah has long been the part of the territory now called Malaysia and that none had challenged its status till recently. The dispute took a serious turn when the Philippines, by a Congressional Act in Sept., 1968, extended her domain and sovereignty over Sabah. Simultaneously, the guerilla activity in the area was stepped up. In retaliation, Malaysia broke diplomatic relations with Philippines. Both sides seemed determined to settle the issue by means of force. However, after the mediatory efforts of some ASEAN members, an understanding was announced to have been reached between the two countries in December, 1968.

New Govt. set-up. The 42-year old Tahaniku Abdul Halim Mu'Azzam Shah Ibnu Almarhum Sultan Badashah was sworn in on 21 Sept. 1970 as Malaysia's fifth King. The monarchy in Malaysia is unique; it is elective and lasts for just five years. The King is elected, among themselves, by the traditional rulers of 9 of the country's 13 States. The present King is a nephew of the former Prime Minister Tunku Abdul Rahman. The Tunku resigned on 22 Sept., and was succeeded the same day by Tun Abdul Razak, his Deputy.

Bhutan

King Jigme Dorji Wangchuk, the ruler of Bhutan, said at Thimpu in April, 1970 that his country would apply for UN membership in the near future. Bhutan is a land-locked kingdom in the eastern Himalayas between Tibet in the north and Indian States of West Bengal and Assam in the south and south-east and NEFA on the east. It has an area of about 16,000 sq. miles and a population of 8 lakhs (1964). In accordance with the India-Bhutan agreement of 1949, Bhutan's defence and external affairs are the responsibility of the Govt. of India. The Kingdom has complete independence in internal affairs. A closed country till recently, Bhutan has of late made considerable progress in the constitutional, political and social fields. It has a National Assembly of 150 members from which the King, as the Head of the State, has to seek a vote of confidence every three years. The country is administered by a Council of Ministers presided over by the King. Land reforms of far-reaching nature have been introduced in the country. India is providing Bhutan extensive assistance in economic development, road construction, housing and provision of medical and welfare facilities.

Fiji

Fiji, till recently a British colony in the south-west Pacific and consisting of an archipelago of 800 odd islands, was freed on 10 Oct., 1970. 96 years ago the same day, the 12 leading chiefs had ceded this territory to Queen Victoria. Fiji has opted to be a member of the Commonwealth. 7,055 sq. miles in area, Fiji was discovered in the 16th century by Abel Tasman (Dutch). Sugar is its chief produce. Fiji is a miniature India. It has a population of 5.2 lakh of which 2.56 lakh is of Indian origin (descendants of the Indian indentured labour brought to the island in the 19th century). The new constitution provides for a bicameral legislature and a parliamentary cabinet system. The elections are to be on the basis of adult franchise and part communal and part joint electorates. Under the present Constitution, Indian settlers would continue to be denied the right to own land.

Tonga

The semi-independent kingdom of Tonga in the Pacific was made fully independent by Britain in June 1970. It is an archipelago of about 150 islets with a total area of 270 sq. miles and a population of about 70,000 persons. Tonga has been ruled by the kings since the 10th century A.D. The kingdom was discovered for the West by Jakob Lemaire (Dutch : 1616). A predominantly agricultural country, it trades mainly in copra.

Cambodia

Early History. The Khmer Kingdom of Cambodia was founded by migrants from Indian sub-continent and Indian settlers from Java and Sumatra during the first four centuries A.D. The Indian colonists intermarried with the indigenous people of the Mongoloid stock and the mixed race came to be known as Khmer race. Indians introduced rice plantation in Cambodia.

With the passage of time, serious differences arose in the Khmer people between earlier Hindu Brahmins and the later Buddhists. The Indian influence began declining from the 8th century A.D. During the 12th century A.D. Suryavarman II built the masterpiece of Khmer architecture, the Angkor Wat, a galleried temple with scenes from the Hindu epics. During the 19th century, the Khmer Kingdom came under the influence of the French. King Norodom I (1859-1904), faced with Thai attacks, accepted the status of a French Protectorate in 1863. Japan, after entering the War in 1940, overran whole of Indo-China. The Khmer Kingdom, however, remained intact during French Protectorate and Japanese occupation.

After the defeat of Japan in 1945 and her withdrawal from Indo-China, Cambodia came under the influence of the Khmer Issarak (Free Cambodia) Party, which had been sponsored by De Gaulle's Free French during war years to act as an anti-Japan clandestine force. This party was instrumental in securing freedom (within the French Union) for Cambodia in November, 1949 along with Vietnam. After 1950 a faction of Khmer Issarak, some Laotian elements and Vietminh insurgents from North Vietnam organized themselves into an insurgent force to fight the French. By the Geneva Agreement of 1954, both Vietminh and the French agreed to withdraw their forces from Cambodia.

The Sihanouk Era. The Socialist People's Community Party swept the polls in Sept. 1955 and its unquestioned leader Norodom Sihanouk (who had earlier abdicated the throne in favour of his father Norodom Suramarit) formed a government under his Prime Ministership. His first act was to secede completely from the French Union and to adopt a neutralist foreign policy, though he continued to receive large scale American military assistance. On the death of his father in 1960, Sihanouk became Head of the State. In 1963, Sihanouk accused CIA of fomenting rebellion in Cambodia and the following year he refused American military and economic aid. In 1967, when the US threatened to take the Vietnamese war to Cambodia and other neighbouring countries if the communist sanctuaries there continued to operate against South Vietnam, Sihanouk broke diplomatic relations with the USA. Simultaneously his relations with China considerably improved.

Sihanouk Ousted. In March, 1970 when Sihanouk was away in Paris convalescing from an ailment, infuriated anti-Sihanouk mobs raided and ransacked the Embassies of North Vietnam and Provisional Revolutionary government of South Vietnam. Sensing serious internal trouble, Sihanouk decided to return home via Moscow and Peking to secure Russian and Chinese backing for keeping Cambodia out of the Vietnamese war and a guarantee for continued independence and neutrality. In the meantime on 18 March, 1970 Cambodian Prime Minister General Lon Nol seized power, ousted Sihanouk and appointed Assembly Chairman Cheng Heng as Acting Head of the State. The Assembly gave its seal of approval to the changes as also the deposition of Sihanouk. The

objectives of the new regime were to restore peace, disturbed by the communists, eradicate corruption and strengthen the nation's non-aligned policy. A military tribunal tried Sihanouk in absentia and condemned him to death on charges of treason, embezzlement of State funds and selling the country to the communists of North Vietnam. On 9 Oct. 1970, Cambodia abolished monarchy and declared itself a republic.

Sihanouk forms Govt. in Exile. Sihanouk learnt of the coup in Moscow where he was assured Russia's full support against the Lon Nol regime. After his arrival in Peking, Sihanouk openly accused CIA for masterminding the *coup*. Speaking to people on radio, he promised to refer, on return home, the issue of his deposition to a referendum and to abide by the people's verdict. The Lon Nol regime rejected the proposal and banned Sihanouk's return to Cambodia. Stranded in Peking, the Prince appealed to world nations not to recognize the Lon Nol regime and, at the same time, threatened to enter Cambodia and lead the resistance. He formed a Cambodian government in exile on 23 March, 1970, to which Mao Tse-tung offered his country's unwavering support. Simultaneously, civil war started in Cambodia between the Communist insurgents and Sihanouk supporters on one side and the Cambodian Army on the other.

The American and South Vietnamese Intervention. Immediately after the *coup*, the Sihanouk supporters known as the National United Front of Kampuchea Liberation Army (FUNKLA) made common cause with the 50,000-man Viet Cong and North Vietnamese forces in Cambodia. These elements concentrated themselves in the northern provinces and around Phnom Penh, the Cambodian capital. The eastern and northern parts of the country, all roads leading to the capital and both sides of the Mekong river were in insurgents' hands. The fall of the new regime was expected any moment. General Nol, at this moment, made direct appeals to USA and Australia for material help as also established contact with Saigon and Bangkok. Simultaneously he ordered an offensive against the Vietcong. All Vietnamese, suspected of harbouring the communists, were massacred.

As the fate of the Lon Nol regime hung in balance, the American and South Vietnamese forces launched a massive offensive in about a dozen thrusts across the entire 600-mile long Cambodia-South Vietnam border. It was described as a cleaning operation against the Viet Cong sanctuaries in Cambodia which served as a base for communist activity against Cambodia and South Vietnam. President Nixon justified intervention as a measure to protect the Americans in Vietnam and to guarantee the continued success of Vietnamization programme. The American and South Vietnamese forces captured two vital routes joining Phnom Penh with Sihanoukville and Saigon, vital concentrations in Parrot's Beak and Fish Hook and the two ferry crossings over the Mekong River. In the Fish Hook, Mimot as also its nearby rubber plantations were completely destroyed. The prime target of these forces in area was, however, the Central Office of South

Vietnam (COSVN), the communist nerve centre for operations in South Vietnam. With its destruction, the Sihanouk Trail was reduced to a shambles. An armed South Vietnamese flotilla consisting of 50 gunboats, supported by American helicopters and bombers, moved along the Mekong river and arrived at Phnom Penh on 11 May to the great relief of the Lon Nol forces.

As promised earlier by President Nixon, the Americans completed their operations and withdrew from Cambodia by 30 June.

Laos

Laos is a landlocked kingdom in the Indo-Chinese peninsula and is bounded by China in the north, North Vietnam in north-east, and South Vietnam in east. It has an area of 91,428 sq. miles. By middle of 19th century, the area now known as Laos became the scene of conflict between the French and the Siamese and in 1899 it became a French Protectorate under the name of Laos. The area was taken by the Japanese during World War II. After the departure of Japanese, a party named as Lao Issara ("Free Laotian" party) was formed to oppose return of the French. Laos was granted full independence within the French Union in 1950.

Most of the Lao Issara leaders sided with the Royal government (which was also backed by the French and American governments) whereas Pathet Lao, a newly formed communist-inspired party under Prince Souvanna Vong urged revolution against the government. Pathet Lao were joined in by communists from Cambodia and China. In 1953, the Vietminh forces from North Vietnam moved into and occupied northern provinces of Laos. In accordance with the Geneva Agreement of 1954, both France and Vietminh were to withdraw from Laos whereas the Pathet Lao was to withdraw to the provinces of Phongsaly and Houa Phan pending a national election to ascertain their respective claims. However, as the two sides failed to agree to the general election terms embodied in the Geneva Agreement, a virtual partition of the country occurred along the territories held by the two sides. An international commission with India, Canada and Poland as members was despatched to Laos by the United Nations to supervise implementation of the agreement. In the meantime, Laos withdrew from the French Union in 1956.

After a good deal of political and military complications, the three major factions—the neutralist led by Prince Souvanna Phouma, the left-wing led by Prince Souvanna Vong and the right-wing led by Prince Boun Oum—signed a pact (under the auspices of the 14-nation Geneva Conference) in 1962 to end the civil war, form a coalition government and integrate their military and police forces. Laotian neutrality was recognised and all foreign troops were asked to leave. The coalition government, however, did not last for two years, and the guerilla activity was renewed. Several attempts at rapprochement were made later but without results. The Princes continued to drift. In the meantime, some Laotian areas bordering along North and South Vietnam were virtually occupied by North Vietnamese forces and were used as supply routes to communists in South Vietnam. These Laotian

areas forming part of the "Ho Chi-minh Trail" were several times bombed by the American aircraft deployed in South Vietnam.

Latest Developments. In early 1970, the Pathet Lao controlling the Northern provinces appeared to be itching for a major encounter with the neutralist government which had been backed by the USA. On 21 Feb., 1970 the Pathet Lao, supported by North Vietnamese, launched a strong attack on the Plain of Jars, a 25-mile plateau about 100 miles north of Vientiane, and seized it from the government forces which withdrew to the adjoining hills. The possession of Plain of Jars has been alternating between the Pathet Lao and the neutralist government since 1963. It is a strategic area through which run the communist maintenance routes from North to South Vietnam and to North-East Cambodia. The Pathet Lao has alleged that the neutralist forces, during their control of the Plain, were causing obstructions in the administration of their northern provinces.

In spite of efforts by India and some other countries, the International Control Commission, designated under the Geneva Agreement to control and supervise peace-keeping operations, has not been activated. It is pointed out that unless the two main factions patch up and agree on a definite schedule regarding elections and integration of the areas they hold separately, peace cannot come to Laos.

THE WEST ASIAN CRISIS OF JUNE 1967

Genesis of the Dispute. The Jews and the Arabs have been living in a state of acute tension ever since the creation of Israel in 1948. Israel was created to provide a home for the Jews who had been roaming about in Europe since 70 A.D. when they were driven out of Palestine by King Titus. Since this dispersion, the Jews had been found in almost every country of the world. They lived under conditions of extreme persecution. They were expelled from Britain in the 12th century but were allowed back in the 17th century. It was only in the 19th century that they were granted equality with Britons. In 1933, an organised anti-Semitic campaign was started by Hitlerite Germany. During World War II, millions of Jews were killed by the Nazis in the gas chambers or by other inhuman methods.

In 1917, the British government declared (through its Foreign Secretary Lord Balfour) that after World War I, Palestine would be made into a homeland for the Jews. It was mainly on account of this Declaration that Britain became the mandatory power for Palestine under the League of Nations in 1919. In November 1947, the United Nations General Assembly voted to partition Palestine into Jewish and Arab States. In May 1948, independence of Israel was declared with David Ben Gurion as the first President. Soon after, the armies of Egypt, Jordan, Lebanon, Iraq, Syria and Saudi Arabia invaded the new State of Israel. The war ended in January, 1949 by UN mediation but not before Jordan had gained control of most of Arab Palestine and Egypt had seized Gaza strip from the Israelis. In 1950, the USA, Britain and France, by a

tripartite declaration, guaranteed the integrity of the Arab and Israeli borders. This did not, however, prevent sporadic fighting between the Arabs and the Israelis.

The second round of fighting took place in 1956 when Britain, France and Israel coordinated and planned joint action against Egypt which had nationalised the Suez Canal and had also denied shipping rights to Israel through the waterway. Israel occupied Sinai peninsula and drove towards the Suez Canal. Strait of Tiran was also captured. Later, on intervention of the United Nations, Israel withdrew in March, 1957 from Gaza strip and the Strait of Tiran. A 6,000 strong UN Emergency force was stationed into Egypt and it took positions along the Israeli-Egyptian frontier. In early 1957, President Eisenhower of USA reaffirmed guarantee of Middle East borders and simultaneously pledged support to Israel's right to shipping through the Strait of Tiran.

In February 1966, the extremist wing of the Socialist Baath Party came into power in Syria by a coup. It later organised terrorist activity along the Israeli border with Syria. Israel threatened to attack Syria if the raids did not stop. The Arabs alleged that the Israelis had completed plans to attack Syria on 17 May 1967 and had massed 11 to 13 brigades on north and south of Tiberia lake. Following is the chronology of the events that took place in May-June, 1967 : -

- 16 May UAR sets up army HQ in the Sinai border area ; UAR troops move to Israeli border to meet Israeli threat.
- 17 May Cairo asks UN Emergency Force to pull out of Sinai.
- 19-21 May UNEF winds up its operations ; Cairo calls up reservists. UAR troops move into battle positions.
- 23 May UAR closes Gulf of Aqaba to Israeli shipping.
- 5 June War breaks out in West Asia ; all Arab States declare war against Israel ; UNEF strafed.
- 7 June Israel occupies area from the West bank of Jordan to Suez Canal. Penetration in Syrian territory.
- 8 June UAR accepts cease-fire, demanded by UN Security Council.
- 9 June Syria and Israel accept cease-fire ; President Nasser resigns from UAR Presidentship.
- 10 June President Nasser, on public demand, withdraws his resignation and stays in power.

Thus on 5 June 1967, at 7.45 a.m., Israel took the offensive with 250,000 men, 800 tanks and aircraft against the combined strength of 350,000 men, 1,800 tanks and 600 aircraft of the Arabs. Israelis mainly depended on the element of surprise, suddenness of attack, speed and tactics rather than on the number or armament. By 10 June, the Israelis had gained territory three times the size of Israel and it included the Gaza Strip, the whole of Sinai peninsula up to the Suez Canal, the Syrian heights which dominate the northern part of Israel, the West bank of Jordan river and the old city of Jerusalem. About 2.5 million strong Jews now controlled territory containing nearly 1.5 million Arabs.

The Jarring Mission. On 22 November, 1967, the United Nations Security Council took the first substantial action by unanimously passing a British draft resolution calling upon Israel to withdraw from the territories, occupied by her during the June conflict. Mr. Gunnar Jarring, a Swedish diplomat, was appointed by the UN Security Council to explore possibilities of a negotiated settlement of the West Asian crisis between Israel and the Arab nations. After a long search for peace in Cairo, Jerusalem and Amman (Syria had refused to have any truck with the Mission), the Jarring Mission reported failure in evolving a mutually acceptable formula. Israel refused to budge even an inch from her earlier stand on the issue and it was this intransigence that had reduced the Jarring Mission to an exercise in futility.

The Big Four Initiative. The Presidential change in the USA, the conciliatory attitude adopted by France and Britain towards the Arabs and the increased Russian involvement with East European countries as well as China, revived hopes of an early Big Four initiative on West Asia. In fact, the Big Four intervention was in 1969 suggested by General de Gaulle which found approval with the USA, Britain and Russia. The de Gaulle plan suggested that the Big Four should finalize their agreed recommendations on the basis of which the West Asian nations should be asked to reach a negotiated settlement. On the conclusion of a satisfactory agreement by the West Asian nations, the Big Four should remove the genuine fears about territorial violations in future by executing a joint guarantee. The Israeli attitude, outspokenly cynical about the Big Power intervention, was the only hurdle in the way of a peaceful settlement.

The Rogers Plan and the Cease-fire. While the actual fighting between the Arabs and the Israelis lasted but six days, the truce brought about at the instance of UN, could be described as the elongation of 1967 war. Bloody duels and attacks across the Suez Canal and Jordan river went unchecked. UAR forces continued to destroy the Israeli fortifications being built on the Eastern bank; Israelis, in retaliation, chose to launch airborne commando attacks deep into Egyptian territory, located on the West Bank of the Suez. On the Jordan river, every attack by the Palestinian commandos against Israel provoked quick retaliatory air and land strikes by the latter. In the meantime, Russian arms and equipment continued to pour in UAR. With the installation of Russian SAM-2 and SAM-3 missiles in UAR, and the virtual take-over of defence of Egyptian heartland by the Russians, there was every chance that a small incident could cause a major conflagration. The USA, therefore, felt compelled to cooperate with the USSR to devise an apparatus whereby the two contending parties could be brought to the negotiating table. The result was the Rogers Plan.

The "stop fighting, start talking" American Peace Plan provided for a 90-day "standstill cease-fire" and third-party negotiations under the auspices of reactivated Jarring Mission in accordance with the Security Council Resolution of November, 1967.

Israel, UAR and Jordan accepted the Plan and the cease-fire. Nasser's acceptance split the Arabs—Jordan, Kuwait, Sudan and Lebanon announced their support but Syria, Iraq, the Palestinian guerrillas and some others rejected the proposal outright. Israeli acceptance was no smooth-sailing either. The country's three-year old coalition government broke up on the issue as the right-wing Gahal Party decided to quit in protest over the acceptance of US Plan. Israel, at the same time, ruled out evacuation of Arab territories before a formal peace pact.

The Hitch in Negotiations. It was mutually decided by the parties to hold parleys at New York at ambassadorial level. In the meantime, Israel announced to pull out of the talks for the reason that UAR had violated the standstill agreement. She alleged that systematic build-up of men (four divisions of troops), tanks (1100) and missiles (SAM-2 and SAM-3) took place in the "standstill zone" on the first two nights of the cease-fire. Photographic proof, secured by the Israelis by means of aerial reconnaissance, was supplied to the USA. President Nixon's assurances on maintenance of military balance and inviolability of cease-fire stipulations could not convince Mrs. Golda Meir, the Israeli Prime Minister, during her visit to the USA in September, 1970. She ruled out any negotiations with the Arabs until UAR rolled back the Soviet missiles out of the Suez zone. In the meantime, UAR announced that the US initiative for a negotiated peace in West Asia had virtually ended. It is now universally feared that as the time passes, chances of any resulting settlement are becoming increasingly slim.

The Peace Prospects. This is perhaps the best psychological moment to strike a workable solution. Cairo is reconciled to the painful fact that unless there is a political settlement, Israel will not relinquish her territorial gains of the 1967 war. King Hussein is prepared to accept a negotiated settlement in spite of potent threat to his throne from the guerrillas. The Arabs are generally prepared to work out a solution on give-and-take basis. The Big-Four consensus on a reasonable settlement includes: (i) withdrawal of Israeli forces from the occupied Arab territories; (ii) recognition of territorial integrity of Israel by the Arabs and ending of the state of belligerency by the latter; (iii) opening of the Gulf of Aqaba and Suez Canal to Israeli shipping; (iv) establishment of some kind of temporary demilitarized zones in Sinai peninsula and elsewhere to avoid armed confrontation between the two parties for some time. The only hurdle that may prevent a workable solution might be the status of the Jerusalem, the sacred city of the Jews, Muslims and Christians alike. At present the eastern (Jordanian) part of the city has been integrated with Israel after its capture during the June, 1967 fighting.

Al Aqsa Mosque Burnt. Al Aqsa (the distant) Mosque, situated in the Muslim (Jordanian) part of Jerusalem, was burnt down and cruelly damaged during the second half of August, 1969. A 28-year old Australian national, Michael Rohen, was later apprehended by the Israeli authorities for this act of vandalism. Al Aqsa Mosque stands on the site of the Jewish Temple,

the national shrine of ancient Jewry, which was conceived by David and where Abraham was said to have built the altar for the sacrifice of Isaac. The entire religious and political history of Judaism is tied up with this Temple which, according to Bible, was the dwelling place of the Divine Presence. Prophets saw their visions there and prayers were directed to it, even from a distance. The Temple was constructed by Solomon (974–934 B.C.). It was destroyed by the Babylonians in 586 BC but was reconstructed in 520 BC. It was the Temple to which Jesus went. Prophet Mohammad, according to the Koran, enjoined that prayers be always directed towards it. This is how the mosque that was built over the Temple site later got the name "Al Aqsa"—*the distant one*. The Wailing Wall, which still stands in the vicinity of Al Aqsa Mosque, formed part of the wall that surrounded the Jewish Temple grounds. It has all along been held by the world Jewry as an extremely sacred remnant and reminder of ancient glory.

The Rabat Islamic Summit. To protest against the burning of Al Aqsa Mosque, a conference of world Muslim States, Arab as well as non-Arab, was called at Rabat, Capital of Morocco in Sept. 1969. An invitation was sent to India which immediately sent a delegation under the leadership of Mr. Fakhruddin Ali Ahmed. But when Mr. Ahmed reached Rabat, the Summit nations, under Pakistani threats of non-cooperation and staying away, retracted their invitation to India and prevented her delegation from participating in the Conference. The Pakistani stand was supported by Iran, Turkey, Jordan and Morocco. This was against all norms of international behaviour, diplomatic niceties and ordinary courtesy that an invitee expects from his host. The Conference proved a complete failure as the mutual rivalries prevented its nations from taking any substantial decision.

The Jeddah Meet. After the Rabat fiasco, the Islamic Foreign Ministers met at Jeddah in March, 1970 and, in spite of strong opposition from UAR, Sudan, and Libya, decided to establish a permanent Islamic Secretariat with headquarters at Mecca (till Jerusalem was liberated). Iraq, Syria and South Yemen had boycotted the meet.

The Troubled Persian Gulf

Geographical Position. The Persian Gulf extends for about 500 miles from the mouth of Shatt-al-Arab to the Musandam peninsula. Its coast has a total length of about 2,000 miles, both on the Iranian as well as Arabian side. There are nine political units with shorelines on the Gulf. They are Iran, occupying the entire north-eastern shore, Iraq (40 miles), Kuwait, the Neutral zone, Saudi Arabia, (Sheikhdoms of) Bahrain, Qatar, the seven Sheikhdoms of Trucial Oman (Abu Dhabi, Dubai, Sharjah, Ajman, Ummal-Qaiwain, Ras-al-Khaimah and Fujairah), and the Sultanates of Muscat and Oman. The economy of the Persian Gulf was completely transformed after large scale oil discoveries on either side of the Gulf. Oil is thus the mainstay of its present economy and reason of its unprecedented prosperity.

Political Background. As the English political influence became dominant in India during the 18th Century, the British presence in the Persian Gulf assumed added importance. By 1853, the British had subdued all the territories on the Arabian side of the Gulf. These territories were renamed as the Trucial Coast. By 1899, Trucial Coast, Bahrain and Kuwait had come under direct British protection. In accordance with the Anglo-Turkish agreement of 1913, Turkey relinquished her sovereignty over Bahrain, Qatar, Muscat and Trucial Coast and recognized Britain's absolute right to administer and police the Gulf. While the Gulf Sheikhdoms were allowed internal autonomy, a British political resident at Bahrain was in charge of the relationships with these States with political agents at Bahrain, Qatar, Abu Dhabi and Dubai. Kuwait became independent in 1961. The Sultanates of Oman and Muscat, though independent, were bound to Great Britain by treaty relationship.

With the projected British withdrawal from the area in the near future, the oil-rich Persian Gulf has become one of the most explosive areas in West Asia. The efforts of the tiny Sheikhdoms to form themselves into a federation or a confederation with a super power or the United Nations underwriting their territorial inviolability, have not met with success so far. This has also generated considerable tension among Iran, Iraq and Saudi Arabia, the three powerful nations surrounding the Persian Gulf territories who have advanced their claim on these States.

The Bahrain Dispute. Bahrain is an archipelago, 27 miles long and 10 miles wide. It is an independent Sheikhdом under British protection in the Persian Gulf. It lies between the Qatar peninsula and the Hasa coast of Saudi Arabia. An expanse of sand and bare rock, it is abundantly rich in oil resources. In 1507 the Portuguese occupied the island. The Shah of Persia, aided by his Arab subjects, captured Bahrain in 1602 and held it till 1783 when the island passed to an Arab Sheikh. During the 19th Century, Iran as also many other nations tried to establish their hold on Bahrain but all such efforts were defeated. By 1892, the Sheikhdом had become a British protectorate—autonomous in internal affairs but its external relations managed by Great Britain. By the Treaty of 1927, Saudi Arabia recognized the special British relationship with Bahrain but Iran periodically claimed the island as hers. Iran revived her demand in the event of British withdrawal from the Gulf but, later, agreed to have the Bahrain people's wishes ascertained under UN auspices. A UN team was accordingly sent to Bahrain under the leadership of Mr. Winspeare Guicciardi which reported that the people of Bahrain wanted an independent Arab State.

The Shatt-al-Arab Dispute. The 111-mile channel formed by the confluence of the Iraqi rivers Tigris and Euphrates and extending from Al Qurnah to Al Faw at the sea mouth, is called the Shatt-al-Arab. It is an important outlet to the sea both for Iraq and Iran. An important feature of the channel is that for about 60 miles above Al Faw (the sea mouth), the frontier between Iraq and Iran follows the left (eastern) bank of the Shatt,

thus bringing the entire waterway within Iraq. This fact has been responsible for many disputes between the two countries. However, by the agreement of 1937, both Iraq and Iran had agreed to use the channel equally. The Treaty stipulated that the two countries should later reach a negotiated settlement of navigation. As no agreed solution with regard to navigational rights emerged, Iraq treated the Shatt-al-Arab as her exclusive territory. Iran, in retaliation, abrogated the 1937 treaty. In 1969 Iraq countered the Iranian abrogation by threatening to prevent Iranian ships from passing through the water channel unless they lowered their flags. Iran declared to use force if Iraq attempted to translate her threat into action. Both countries now appeared prepared for a showdown. The crisis, however, blew over because Iraq, seriously engaged in suppressing the Kurd revolt in the North, refused to be provoked into an armed conflict.

Lebanon

Ever since the Israeli commando attack on the Beirut International airport on 28 December, 1968 the political life of Lebanon, which never has enjoyed complete unity of purpose, has been further split up with the Muslim and Christian factions tearing apart in opposite directions. While the Muslims enjoy a slender numerical majority in the country, the Lebanese Christians, thoroughly westernized and pro-West, control the country's banking system, trade and commerce. The Lebanese Army is predominantly Christian. The Muslims wholeheartedly support the anti-Israel Arab struggle and aid and encourage the Palestinian guerillas who have also been operating against Israel across the Lebanese borders. The Christian population and the Army of Lebanon prefer a neutralist course on the West Asian crisis. Throughout the six-day Arab-Israeli war of June, 1967, and thereafter, the Lebanese Government has scrupulously restrained itself from actively participating in the crisis on the side of the Arabs.

Lebanese neutrality has caused consternation among the Muslims who profess support for the Arab cause. Widespread clashes occurred between the guerillas and the Lebanese Army and Rashid Karame's government resigned on this issue in Oct., 1969. The guerillas are afraid of losing the reason of their existence if they cease raiding Israeli territory across Lebanon. On the other hand, the Lebanese Government fears that unchecked guerilla activity might provoke Israel to drastic retaliatory action against Lebanon.

Yemen

With an area of 75,000 sq. miles and a population of about 5 million, Yemen lies in the South West of Arabia on the Red Sea. Until the end of World War I, Yemen was under Turkish occupation. In 1934, Yemen was temporarily conquered by Saudi Arabia but the occupation did not last long and the present frontiers were established. In 1947, Yemen became a member of the UNO. In 1958, Yemen joined the Egypt-Syria Union (United Arab Republic) but soon after the secession of Syria

from the UAR in 1961, President Nasser of the UAR dissolved ties with Yemen denouncing Imam as a reactionary. A pro-Nasser Army group led by Colonel Abdullah al-Sallal seized power in 1962 and proclaimed a republic. The Imam's forces retreated to the edge of eastern desert. The new regime was soon recognised by the UAR and the Soviet Union. On the other hand, a royalist Yemen government was formed in exile with the blessings and active help of King Saud of Saudi Arabia. Thus the civil war in Yemen assumed the role of a war virtually between UAR and Saudi Arabia.

On account of active mediatory efforts by the USA and the UNO, the UAR and Saudi Arabia agreed on withdrawal from Yemen. In 1965, President Nasser and King Feisal concluded a formal agreement at Jeddah but the issue was allowed to stalemate as neither side wanted to implement the agreement. It was only after the 1967 war that UAR withdrew her forces from Yemen and Saudi Arabia stopped assisting the royalists. With the withdrawal of Egyptian army support, the Yemeni President Sallal was overthrown by the Armed Forces. A three-man ruling council was set up in Yemen with Abdul Rahman Al-Iriani as the President.

South Yemen

Background. After successful punitive expedition from India, the British captured Aden in 1839. Soon after, the British were able to detach the Aden territory and some nearby Sheikhdoms from the territory then known as Yemen and place them under British protection. The rest of the Yemeni territory, *i.e.*, the territory now known as Yemen proper was left in the hands of native Arab rulers. Till 1950, the feudal chiefs of the protectorates were almost autonomous but the British hold on Aden was complete and effective; till 1937 it served as a staging post to India but was later converted into a Crown Colony. After the Indian independence, it had a strategic importance in the Anglo-American global defence network against Russia. By 1967, the National Liberation Front (NLF), a political-cum-terrorist organisation of local Arab nationalists, had seized power in Lahej, Dhalla, Upper Yafa, Lower Yafa, Qaitis and some other States. The British now decided to hand over power to the National Liberation Front.

The Civil war. During the last ten years of British rule in South Arabia (now South Yemen), two rival nationalist groups came into prominence, namely the National Liberation Front (NLF) and the Front for the Liberation of Occupied South Yemen (FLOSY). The British-organised South Arabian army sided with the NLF while FLOSY enjoyed the patronage of Nasserite UAR. Great Britain decided to hand over power to NLF which appeared to represent majority of the people in the federation. As the British government decided to complete its political and military withdrawal from South Arabia by 30 Nov. 1967, civil war between NLF and FLOSY erupted in the first week of November. The NLF emerged supreme after the civil war that lasted 20 days.

The Emergence of South Yemen. The NLF negotiated with Britain during November, 1967 to finalize the modalities of transfer of sovereignty. The final agreement envisaging the creation of the former British colony of Aden and the South Arabian British protectorates into a new Republic of South Yemen was signed on 30 November, 1967. The new Republic that was born on the midnight of 30 November, formally terminated the 128-year old British presence in the territory. Mr. Qahtan Mohammed Al-Shaabi, leader of the NLF, became the first President of the South Yemen Republic.

Iraq

Coup in Iraq. In a midnight coup d'etat on 17 July, 1968, President Abdel Rahman Aref was ousted from power and banished, the government of Prime Minister Taher Yahya was dismissed, a new revolutionary council was formed and Major General Ahmed Hassan el-Bakr was unanimously elected President of Iraq. The new government was dominated by the left-wing Baathists. This was the third coup since 1958 when General Kassem overthrew the monarchy and established a republic.

The Kurd Uprising. Kurds, people of mixed stock, are ancient people, inhabiting *Kurdistan* territory comprising Eastern Turkey, Northern Iraq, Northwestern Iran and parts of Soviet Armenia. Their population statistics are Iraq : 12 lakh, Turkey : 25 lakh, Iran : 14 lakh, Syria : 2.5 lakh and Russia 60,000. Most of the Kurds are Sunni Muslims. Their ethnic origin can be traced to the period many hundred years B.C. They played a great part in the troubled history of Western Asia, yet they never have enjoyed anything approaching political unity. After World War I, the Treaty of Sevres (August, 1920) between the Allies and Turkey provided for the creation of Hajez, Syria and Iraq as also the State of Kurdistan by integrating the Kurd territories of the Ottoman Empire. But with the emergence of Mustafa Kamal Atatürk in Turkey, this treaty was never ratified and, on the other hand, was superseded by the Treaty of Lausanne of 1923 which confirmed the creation of Arab States of Iraq and Syria but sealed the fate of the Kurds, who were now integrated with Iraq, Turkey and Syria.

In 1925, on the initiative of the League of Nations, the Kurds inhabiting Northern Iraq were given rights and safeguards with regard to the use of their own language and administration by themselves. These safeguards were given statutory shape and international obligation when Iraq in 1932 applied for the membership of the League of Nations. After the coup of 1958, the Kurds were accorded, in the new Republican Constitution, the position of partners with the Arabs. Soon after, differences arose with regard to the greater devolution of power and a higher status for the Kurd language. The offer of autonomy within Iraq, made by President Aref in 1966, appeared to have appeased the Kurds temporarily but Aref's ouster opened the lid of trouble. The Kurds were up in arms again in May, 1969 when Iraq, along with the other Arab nations, was involved in serious conflict with Israel and

also with Iran over the Shatt-al-Arab waters. However, a complete political and constitutional settlement of the problems between the Arabs and the Kurds was arrived at in March, 1970.

Jordan

With an area of 37,500 sq. miles and a population of 1.7 million, Jordan is mainly arid and mountainous. It was under Turkish rule from 16th Century to 1918. It became a mandated territory after World War I and was established as a semi-independent emirate under King Abdullah in 1928. After the end of mandate in 1946, it was proclaimed an independent Kingdom. On formation of Israel, Jordan joined other Arab nations in their war against the Jewish State and it occupied the Palestinian area of 2,500 sq. miles west of Jordan river. This territory was eventually awarded to her by the United Nations.

This tiny Arab Kingdom has been shaky ever since the 1967 war with Israel and the occupation by the latter of the territory west of Jordan river. A majority of Jordanian population is of Palestinian refugees whose guerilla organisation *Al Fatah* has its bases on the east bank of Jordan. *Al Fatah* directs its raids on the Israeli-held lands in the West from these bases in Jordan. This has provoked Israel to quick, retaliatory action on Jordanian territory involving senseless killing and damage. Some recent attempts by King Hussein to curb the *Al Fatah* activities touched off a virtual rebellion against the government, threatening the very existence of the kingdom. The result has been an uneasy, precarious peace with the guerillas.

Skyjacking Galore. Palestinian commandos who had earlier fanned out to different places in Europe and Middle East, successfully hijacked three US-bound airliners over Europe on 6 Sept. 1970 while the hijacking attempt on the fourth one—Israel's El-Al Airlines plane—was thwarted by the travelling Israeli guards. The three hijacked planes—a Swiss Airlines DC-8, a TWA Boeing 707 and a Pan American-747 Jumbo—were brought to a desert landing ground near Amman in Jordan. The planes were blasted and 40 of their passengers were held as hostages. Another airliner, a London-bound VC-10, with 115 persons aboard was hijacked and brought to the revolutionary airstrip. Most of the hostages were recovered by the Jordanian Army during the week-long civil war in September and were freed.

United Arab Republic

Changes in Govt. Set-up. President Gamal Abdel Nasser, symbol of Arab resurgence and a leading light of the non-aligned movement, passed away on 28 Sept., 1970 after a severe heart attack. Mr. Anwar Sadat, Vice President in the Nasser Government, was appointed by the ruling Arab Socialist Union as the Acting President and later as President. After approval by the people in a national referendum, he was proclaimed President and was sworn in on 17 Oct., 1970. Subsequently, Messrs. Hussein el-Shafie and Aly Sabry were appointed as Vice Presidents and Dr. Mahmoud Fawzi as the Prime Minister in the first post-Nasser Government.

The Arab Federation. The three Arab States of North Africa, UAR, Libya and Sudan have formed themselves into a federation. This decision came at the successful conclusion of prolonged talks at Cairo among President Anwar Sadat of UAR, President Jaffar Nimeiry of Sudan and President Muammar Gaddafi of Libya. The three Heads of States have expressed their willingness to admit Syria as the fourth member, if the latter wants it. Syria, it may be recalled, had earlier formed a union with UAR in 1958 which lasted but three years.

(b) AFRICAN AFFAIRS

Africa in Ferment. Africa has experienced a new wave of resurgence during the last two decades. A great number of colonial territories have secured independence. Though some pockets of European colonialism, gangsterism and racism—such as Portuguese colonies of Angola, Mozambique and Guinea and white-dominated territories of Southern Rhodesia and South Africa—do exist yet the continent, by and large, breathes a fresh air of freedom. Underdeveloped as it undoubtedly is, black Africa has several problems—racial, economic, political and educational—created by the colonial powers. The colonists had divided the continent among themselves by drawing lines on the map with scant regard to geography, economy or the tribes. Some tribes were split while others were lumped together with their traditional enemies. With the attainment of freedom, the tribal rivalries have increased. There is a universal grievance of dominance of one tribal group by the other in almost all African States. In some countries, the struggle for independence (now from the dominance of another tribe) is still on and is considered as an elongation of the anti-colonial movement.

During the last ten years, many insurrections—largely attributable to religious and tribal tensions—have taken place in independent Africa in such countries as Nigeria, Congo, Kenya, Cameroon, Ethiopia, Sudan and Chad. The revolt in Nigeria was suppressed in January, 1970 but at a heavy cost of one million lives; the trouble in Congo was quelled with UN help; Kenyan rebellion was settled with the patch-up of Kenya and Somali Republic and the one in Cameroon was ended by the country's government with French aid. The disturbed conditions continued in Chad, Ethiopia and Sudan.

Government Changes by Coups D'etat. During the last few years, governmental changes in most of the African countries have been through coups d'etat. This phenomenon is largely attributed to (i) lack of political education and existence of extreme backwardness and poverty among the people; (ii) absence of political infrastructure, tribal identity or a stable political and economic philosophy; (iii) chronic political instability; (iv) the desire of the educated and ambitious young men in the armed forces, the only citadel of power, for quick changes which are impossible from a government owing allegiance to tribalism and parochial interests and (v) factionalism among army officers based often on ideological considerations. The countries where coups d'etat have

taken place in the recent past are Libya (1969), Sudan (1969), Mali (1968), Dahomey (1967, 1969 and 1970), Sierra Leone (1967 and 1968) and Congo (1965).

Africa and Foreign Influences. British policy towards Africa is largely mixed up with her financial and commercial interests in South Africa and Southern Rhodesia where racist regimes are in power in flagrant violation of the UN Charter. Britain has hardly anything in common with the African members of Commonwealth. After evacuation from Libya, Britain has to depend upon South Africa for the security of her trade route to the East, especially after the closure of Suez Canal. In addition, she is reluctant to lose the lucrative South African market for British goods. In Southern Rhodesia, she is not prepared to use force to end the Salisbury regime. Disenchanted with the British attitude towards black Africa, most African countries are diverting their trade to the ECM nations.

Russian influence is steadily on the increase in Africa. Congo-Brazzaville is the first African State to have been founded on Marxism-Leninism. Radicalism of Russian variety is dominant in the present regimes in Libya, Somalia and Sudan. Russia has already secured a foothold in Nigeria, Ghana, Algeria, Mali, Guinea and UAR practise some kind of "scientific socialism". After the resolution of West Asian crisis, Russia is likely to bring a good number of other African nations to her sphere of influence mainly for her uncompromising stand against colonialism and imperialism.

After past mistakes and excesses in the wake of Cultural Revolution, China is working hard to mend her patchy relations with Africans. Chou En-lai's projected visit to African countries in December, 1970 is of great political significance. China has of late figured prominently in economic and military development in some African countries. She is building an ambitious \$400-million rail-road project between Tanzania and Zambia. She is at present training Tanzanian Army, Air and Navy forces and also building them a Naval Base. On the political plane, China is prepared to support any uprising, communist or non-communist, against any established regime. The recent spurt in Chinese activity in Africa is directed against the radicalism of Russian variety.

South Africa

Early History. South Africa was discovered for the West by Bartholomew Diaz. Britain assumed control of South Africa in 1841. The Union of South Africa was created in 1910. After World War II, the country has been ruled by the Nationalists, led by Daniel Malan, H.F. Verwoerd and B.J. Vorster who have all been fanatical protagonists of apartheid. South Africa left the Commonwealth in 1960 and declared itself a Republic the following year.

British Arms for South Africa. In spite of the UN Security Council resolution of July, 1970 (calling upon all States to stop selling arms to South Africa "unconditionally and without reservations whatsoever") and the directive of the UN General

Assembly (urging all nations to break with South Africa and other racist regimes), the Heath Government of Britain has resumed arms-sale to South Africa. The British action has greatly undermined the moral authority of the UNO. The reasons given for resuming arm supplies are that (i) the British ban on arms sale had made no impact on South Africa as she was getting arms from France and West Germany. It only hurt Britain's economic interests; and (ii) it was obligatory for Britain to implement the Simonstown Agreement of 1955 under which Britain is required to cooperate with South Africa to defend the sea route round the Cape of Good Hope. Now that the Russian Naval activity in the Mediterranean and Indian Ocean has considerably increased, the defence of the Cape route, argues Britain, has assumed added importance.

There are indications that Britain under Conservative regime will normalize her economic and political relations with South Africa. In fact Britain's economic interests are deeply involved in South Africa; she has £ 2 billion worth investments in that country from which she derives an income of over £ 100 million every year. Additionally, Britain does not consider it an act of wisdom to economically ruin herself for the sake of black Africa. South Africa is undoubtedly the biggest power in the African continent. The fact of its commanding the Cape route to the East has given her added importance especially after the closure of the Suez Canal.

Southern Rhodesia

History. Bounded in north by Zambia, northeast and east by Mozambique (Portuguese East Africa), south by South Africa and southwest and west by Bechuanaland (Botswana), Southern Rhodesia was an internally self-governing colony till 11 December, 1965 when it made a unilateral and unconstitutional declaration of independence. Southern Rhodesia had been accorded the status of a crown colony on 12 September, 1923 when a majority of its 34,000 Europeans had voted, in a referendum, for internal self-government in preference to merger with South Africa. Except for the Foreign Affairs and a final veto in respect of legislation directly affecting the Africans, all other subjects were given over to the colonial administration. In June, 1962, the UN General Assembly, by a resolution, asked Southern Rhodesia to liberalize her constitution and forewarned Great Britain that majority rule must precede independence to the colony. As the possibility of a unilateral declaration of independence gained strength in 1965, negotiations were held between the Prime Ministers of Southern Rhodesia and Britain but without any mutually acceptable solution. On 11 November, 1965, Southern Rhodesian Government, led by Prime Minister Ian Smith, declared independence. The British government termed it as an act of rebellion and imposed economic sanctions against the regime. However, in spite of UN directives, Britain has refused to use force to liquidate the racist regime of Ian Smith.

Rhodesia becomes a Republic. In the referendum, held on

20th June, 1969, an overwhelming majority of Rhodesians voted for a new Constitution on apartheid basis and for a Republic. The British supported Governor of the colony, appointed by the Queen, relinquished his charge immediately after the outcome of the referendum was made public, thus formally severing all connections between the colony and the British Government. Rhodesia became a Republic on 2 March, 1970.

New Constitution. The new Constitution of Southern Rhodesia provides a bicameral legislature in which seats will be allocated on racial basis. Of the 66 members in the Lower House, 50 would be Europeans and 16 Africans. The African members would be chosen by tribal electoral colleges, dominated by Rhodesia's "yes men". The Senate, the Upper House, will have 23 members—10 elected by European MPs, 3 nominated by the Head of the State and 10 elected by the Council of Chiefs. Representation of Africans would be increased when the Africans contributed 26.5 per cent of the total income tax revenue. Only 7,000 Africans of a population of 4.5 million and 2,000 Asians would be able to vote along with over 82,000 Europeans.

Sudan

The Coup. In the early hours of 25 May, 1969, a group of junior army officers led by Major Jaffar Mohammed-el-Nimery (later promoted Major General) staged a bloodless coup d'état and toppled the multi-party coalition government of the Unionist, Umma and Democratic parties, led by President Ismail Azhari and Prime Minister Mohammed Mahgoub. Supreme powers were assumed by the Revolutionary Command Council which installed Major General Nimery as the Head of the State and named Mr. Abu Bakr Awadallah, a former Chairman of the State Supreme Court, as the Prime Minister.

Sudan, one of the largest countries in the African continent, is roughly divisible into the Muslim, Arabic-speaking, Semitic north and the partly pagan, partly Christianized Negroid south, the boundary between the two regions being the line of Bahr al-Arab. Sudan has a population of over 13 million. It was under Egyptian occupation, with Ottoman Empire of Turkey as the suzerain power during 1820–81, under the Mahdist theocratic rule during 1881–98 and under Anglo-Egyptian Condominium during 1899–1955. On 1 January, 1956, Sudan became independent and was made into a republic.

Libya

The Coup. The oil-rich Arab Kingdom of Libya, bounded by the Mediterranean Sea in the North, UAR in the East and Chad and Niger in the South, witnessed bloodless coup, led by comparatively junior officers of the Libyan Army, in Sept., 1969. It was known after a fortnight that 27-year old Colonel Muammar Gaddafi had emerged as the Chairman of the Revolutionary Command Council and Commander-in-Chief of the country's Armed Forces. On demand by the new Libyan regime, the UK and USA decided to evacuate their bases and garrisons in Libya.

Kenya

After the Kenyan Government's campaign to "Africanize" the country's industry and services, over one lakh Kenyan residents of Indian descent, holding British passports, were involved in an exodus to Great Britain. It may be recalled that only 30,000 Indians had taken up Kenyan citizenship before the option to choose nationality expired in 1963. The remaining 1.20 lakh residents opted for British nationality. When the squeeze in Kenya started, people in their thousands planned to go to Great Britain. With a view to restricting entry of the coloureds into Great Britain, the British Parliament passed the Commonwealth Immigration Act. This measure gave a deadly blow to the multi-racial Commonwealth idea.

Mauritius

Lying in the Indian Ocean off the East Coast of Africa, Mauritius is 720 sq. miles in area with a population of six lakhs. A former British colony, it was freed on 12 March, 1968, after about 150 years of British rule. Discovered by the Portuguese in 1507, it remained under occupation of the Dutch (1638-1710), France (1711-1820) and Britain (1820-1968). Majority of the island's population is of Indian descent.

Swaziland

Freed by Britain on 6 September, 1968, Swaziland has an area of 6,705 sq. miles and a population of four lakhs. It is surrounded by South Africa on three sides and the Portuguese Mozambique on the fourth one. Its economy is also tangled and caught in the economy of the white-ruled, racist South Africa, its powerful neighbour. King Sobhuza II holds effective power in the country, with Prince Makhosini Dlamini as the Prime Minister. Swaziland is a member of the Commonwealth of Nations.

Equatorial Guinea

Lying in West Africa and sandwiched between Nigeria, Cameroon and Gabon, Equatorial Guinea comprises the mainland Rio Muni (10,000 sq. miles) and the Island of Fernando Poo (780 sq. miles). The two territories have existed as autonomous entities since 1963 and have been ruled by a Central Government responsible to Spain till 12 October, 1968 when they were unified into one country and granted independence. The territories have a combined population of 2.8 lakhs.

Nigeria

With an area of about 357,000 sq. miles, Nigeria is a country in West Africa. It has a population of 55 million. Nigeria was formerly a British colony and it gained independence on 1 October, 1960. Three years later it became a republic but remained a member of the Commonwealth. Nigeria has been in turmoil since January, 1966 when its Prime Minister, Sir Abubakar Tafewa Bewlewa was killed in a coup that toppled the government. After the coup, Major General J. T. U. Agulyi-Ironsi took over the reins of government. However, on 29 July, General Ironsi was arrested by some rebel Army officers and on 1 August, 31-year old

Lieutenant Colonel Yakubu Gowon assumed direction of the government. While Colonel Gowon made sincere efforts to consolidate the national unity of the country, uprisings erupted in the northern region. The root cause of the present unrest in the country is described to be the familiar African problem—tribalism.

The country was previously divided into four regions the North mainly Muslim and larger both in area and population than the three others combined, the West almost entirely Yoruba, the East with Ibos as the majority tribe and the Mid-West with mixed population, one third of it being Ibo. In May, 1967, by a decree issued by Lt. Col. Gowon, Nigeria was divided into 12 States. A few days later, the Eastern Region seceded under the leadership of 31-year old Lt. Col. Odumegwu Ojukwu and declared itself an independent territory with the name of Biafra. Colonel Ojukwu complained that the division of the Eastern Region into three States was a clever move designed to cripple the region economically and politically. The federal government, headed by Colonel Gowon, nevertheless pledged to consolidate the integrity of Nigeria whatever the cost. Another rebellion in the Mid-West Region was mercilessly crushed. Many rounds of talks between Biafra and Nigeria took place in the Capitals of friendly African countries but with no fruit. Both sides were determined to settle the issue with force.

Slowly but steadily, the Nigerian federal troops closed in on Biafran territory. The secessionist regime collapsed and surrendered to the federal authority on 12 January, 1970. Col. Ojukwu had earlier fled the country and was given asylum by Ivory Coast. Starving, war-weary Biafrans have thrown up human problems of vast and tragic dimensions.

Non-Aligned Summit Conference

The third Non-Aligned Conference was held at Lusaka, Capital of Zambia, from 8 to 10 September, 1970 under the Chairmanship of Zambian President, Mr. Kenneth Kaunda. 55 non-aligned nations attended the meet. The India delegation was led by Prime Minister Indira Gandhi. The assembled nations decided to break diplomatic relations with Portugal and South Africa for their racist policies and to render more and better material aid to the liberation movements in African colonies. The Conference recommended effective action against Israel for her defiance of the UNO and her refusal to evacuate the Arab territories. It decided against the setting up of a permanent Secretariat for the Conference.

(c) EUROPEAN AFFAIRS

Political Situation in Europe. While there is hardly any perceptible change in the political, ideological or economic alignment in Europe, the European powers are fast moving from an era of confrontation to an era of negotiation. The present thaw in Europe is the result of following factors :

1. The Warsaw Powers' intervention in and occupation of Czechoslovakia, the Sino-Soviet clashes on border and the ideological war between the two countries, have exploded the myth of

communist monolith. Socialist unity cannot now be taken for granted.

2° The Soviet leaders are in no mood to tolerate ideological scepticism among East European countries. Under the Brezhnev Doctrine they appear to have the right to meet any internal or external threat to communist ideology and way of life. At the same time, they have realized that the communist isolationist policy has yielded nothing but tension and distrust; it has struck at the root of European identity. Russia's recent *detente* with West Germany is, therefore, born of her response to the creation of an area of accommodation, trust and mutual cooperation among European nations—but not at the cost of socialist ideology.

3. The Western powers are awfully aware of the Soviet deployment around Europe, of over a hundred army divisions, hundreds of ICBMs and massive air and naval strength. Western nuclear deterrent is more than matched by the Russian nuclear and conventional capabilities.

4. The in-fighting among France and the USA on the military front and between Great Britain and France on the economic front (British membership of the ECM) has laid bare the inherent weakness of the democracies.

5. The Warsaw Pact powers have proposed an all-European conference to devise a double system of European security.

6. There is a desire for *detente* between the socialist and the western camps in Europe—both faced with divisive forces within. The Moscow-Bonn non-aggression agreement of August, 1970 opens up new vistas of cooperation.

The NATO

The NATO nations agree with President Nixon that "the West does not have the massive nuclear predominance today that it once had." This implies that rapprochement with the Soviets is inevitable. The Soviet intervention in Czechoslovakia has helped Western nations repair their differences. The West is now afraid of the phenomenal growth of Russian armed power. Freezing the existing balance is, therefore, considered necessary for peace and security in Europe. Within the NATO family, there are signs of change of attitude among the sceptics. France, which had declared with much fanfare to quit the NATO in 1969, has expressed her desire to continue in the alliance, without, at the same time, retracting her objections to supranational character of NATO's military command structure. Norway appears to find much wisdom in the Socialist countries' proposal of disbanding the NATO and Warsaw Pacts and creation of a joint East-West security system in Europe. West Germany, economically the most powerful nation in Europe, is not prepared to have its security subjected to the overall veto or interests of a super power. She apprehends that the American nuclear guarantee is neither certain nor immediately workable. Before the USA decides on a massive retaliatory step in the event of a conflict, the European cities might have been razed to the ground. She has, therefore, proposed

the creation of an independent nuclear deterrent, available for European needs and built up by the European powers themselves.

Czechoslovakia

Gathering of the Storm. For a couple of years, a wind of change had been blowing over Czechoslovakia. Two decades of socialist rule had not brought her the desired prosperity. The economic and political isolation from West European countries was telling upon her highly developed economy. Her younger generation was itching for fresh air of freedom and her masses were silently advocating democratisation of political and economic life. By the middle of 1967, clouds of anti-Soviet sentiments were gathering in the Czechoslovakian skies. Massive student demonstrations and unrest including violence in 1967 were the manifest forms of this uneasiness.

Novotny Quits. In January, 1968, Mr. Alexander Dubcek replaced President Novotny as the First Secretary of the Czech Communist Party. Mr. Dubcek's elevation as party Secretary opened the flood-gates of reforms. Censorship over the press was abolished, freedom of speech and expression was granted and control on radio and television was relaxed. In the face of mounting pressure from the Party, Mr. Novotny resigned from the Presidency of the country. A new government with General Ludvik Svoboda as President and Mr. Oldrich Cernik as Prime Minister was formed. It launched numerous programmes of democratization of Czech life, invited non-communist foreign capital into the country, allowed private enterprise and proposed economic collaboration with West European countries. These moves naturally disturbed the communist allies who did not make secret of their displeasure in their conferences with the Czech leaders at Dresden, Moscow, Cierna and Bratislava. The Czech leaders nevertheless refused to deviate from their reformist course.

The Invasion and its Aftermath. On the night of 20-21 August 1968, forces of the Soviet Union, Hungary, Poland, Bulgaria and East Germany entered Czechoslovakia and in a matter of hours occupied the whole country. The Czech Government restrained its forces from offering any resistance to the occupation forces. Pravda later disclosed that the Warsaw countries had decided on intervention on the request of some communist leaders of Czechoslovakia. The Czech leaders including President Ludvik Svoboda, Prime Minister Oldrich Cernik and Party Secretary Alexander Dubcek were taken into custody but were later flown to Moscow where they were forced to seek peace with the communist allies on the latter's terms. In accordance with this agreement, reforms were halted in Czechoslovakia and censorship was reimposed on the press. On Czech promise to implement the Moscow agreement fully, tanks were withdrawn from Prague, Capital of Czechoslovakia, by 12 September, 1968. A later agreement between Czechoslovakia and the Soviet Union revealed that the occupation forces would remain deployed on the Czech border with West Germany but bulk of such forces in other parts of the country would be withdrawn.

Changes in Czechoslovakia. In view of "the shortcomings found in his work in the implementation of approved decisions", Mr. Alexander Dubcek, First Secretary of the Czechoslovakian Communist Party, was replaced by Mr. Gustav Husak. He was further blamed to have "protected certain anti-Communist elements who plunged Czechoslovakia into a crisis." Ousted from the Presidium, he was bundled off to Turkey as Czech. Ambassador but was soon recalled and expelled from the Party. Prime Minister Oldrich Cernik, another reformist leader, was replaced. Thousands of Party members not favourably disposed towards the Soviet Union were thrown out of the Organization. Some newspapers were also banned. In the meantime, the Czechoslovakian Government approved the Warsaw Powers intervention in Czechoslovakia and agreed to raise the strength of the Soviet Forces in the country from 60,000 to 115,000.

The Brezhnev Doctrine. The Warsaw powers took punitive action against Czechoslovakia under Brezhnev Doctrine, propounded by and named after Mr. Brezhnev, the First Secretary of the Soviet Communist Party. The Doctrine provides that communist powers have the right to act against a sister socialist country which deviates from the socialist path and therewith threatens the communist fraternity.

France

France in Turmoil. 1968 was an year of political and economic upheaval for France. The student unrest that erupted in May had an innocent origin--students' dissatisfaction with large classes, the outmoded nature of university education and lack of educational facilities. But the unrest developed into a violent movement and spread to the nine-million workers of the industry in the form of a massive, spontaneous strike. France was haunted by the fear of a civil war. On 30 May, 1968, President De Gaulle dissolved the National Assembly and ordered fresh elections which gave his party a landslide victory with a massive majority of 199 seats, the like of which was never given to any single party since the inception of parliamentary democracy in France. The election results were a convincing approval of his policies. De Gaulle was now supreme, having successfully weathered all storms.

End of the De Gaulle Era. Having crushed the leftist insurrection in 1968 and after winning the general elections with the fattest ever majority, Gen. de Gaulle launched on his constitutional reforms including regional autonomy and pruning of Senate's powers. Putting his proposals of constitutional reforms to a referendum, he warned the nation that in the event of a negative vote, he would immediately resign his presidency. His proposals were later rejected by the people on 27 April, 1969 by a margin of 6 per cent and De Gaulle laid down presidency the following day bringing to a sudden close his 11-year rule over the French. The whole world regretted his withdrawal from the political scene. In the Presidential election that followed, Mr. Georges Pompidou won with a majority of 57.2 per cent, his rival Mr. Poher trailing behind with 42.8 per cent of the votes polled.

West Germany

The West Berlin Crisis. Bonn's announcement to hold the 1969 West German Presidential elections in West Berlin and the East German resolve to stall this move highlighted another Berlin crisis—third since the war. The earlier elections of 1954, 1959 and 1964 were held in West Berlin without any untoward incident. Berlin stands 100 miles inside East Germany. Its communications with West Germany lie in the Berlin-Helmstedt Autobahn (motorway) and the defined air corridors. Berlin was captured by Russians on 1 May, 1945, a day after the death of Hitler. An Allied *Kommandantura* of four military powers—Russia, USA, Britain and France—was created to administer the city. Soon after, differences arose between Russia and the other three occupation powers. The three Western Sectors were merged into West Berlin. The Russian sector of Berlin was made the Capital of East Germany. West Berlin is now a State and city of West Germany, but not its constituent part. The city is not administered by West Germany but instead derives its authority from the original four-power *Kommandantura*, set up under the Potsdam Agreement. West Berlin's representatives are, however, allowed to vote in the legislative bodies of West Germany. The Russians and East Germans are, therefore, disposed to give West Berlin the status of an independent political unit.

After administering a serious warning to West Germany that her Presidential elections could not be held in West Berlin, a territory which is not part of West Germany, the East Germans attempted to disrupt the Western communications system. They jammed radio and radar communications along air corridor to West Berlin and twice closed the *autobahn*. The Soviet Union refused to guarantee the safety of Western flights carrying West German politicians for the Presidential election. East German-Russian joint military manoeuvres were also ordered all along the *autobahn* with a view to stepping up the communist war of nerves. Russia, however, avoided serious confrontation with the West because of her involvement in Czechoslovakia.

New Government. Mr. Willy Brandt, the West German Foreign Minister, was elected Chancellor of West Germany on 21 Oct. 1969. He heads a coalition govt. formed by the Social Democrats (S.P.D.) and the Liberals (F.D.P.).

Willy Brandt's Ostpolitik. The heart of Europe's problem, most people believe, lies in Germany. The settlement of the German question is, therefore, the key to a European settlement. After his installation as the Chancellor of West Germany, Mr. Willy Brandt launched on his new policy of seeking accommodation with the East European countries including East Germany in a bid to revive European cooperation and thereby achieve the ultimate reunification of East and West Germany. East German response was conditional : Bonn must first agree to recognise East Germany, ensure present borders of European countries, renounce West German claim of solely representing the German nation and end discrimination against citizens of East Germany. Slightly

disappointed, Brandt turned towards Soviet Union and discovered that a *detente* with Moscow was not only less difficult but also more fruitful. (His predecessors' attempts at direct normalization with Czechoslovakia had provoked the invasion of Warsaw Powers in 1968).

After good deal of negotiations between the Foreign Ministers of USSR and West Germany, a non-aggression pact was concluded at Moscow on 12 August, 1970 between Chancellor Willy Brandt and Prime Minister Kosygin. Both countries renounced the use of force, affirmed inviolability of the existing boundaries of European States and agreed to make plans for economic and technical cooperation. A similar treaty was later concluded between West Germany and Poland, the former recognizing the Oder-Neisse Line as the frontier between East Germany and Poland. Bonn's contacts with the Soviet Union and East Germany for a settlement on Berlin are continuing. These agreements and the one on Berlin are likely to prove a turning point in the history of Europe in so far they lay the basis for a historical development towards ending Europe's division and bringing together the nations "who have, during the last 25 years, faced each other across the ramparts of cold war."

Soviet Union

Shift in Soviet Policy. When Soviet Russia trailed behind the USA in the development of nuclear armoury, she befriended the non-aligned bloc of countries to have the balance of power tilted in her favour. But as soon as the parity with the USA in nuclear power was achieved, she started doubting the usefulness of the neutrals and thereafter began assiduously cultivating Pakistan and other such powers (committed in defence pacts with the West) to wean them away from their Western allies. Large scale economic aid to Turkey and Iran and economic and military aids to Pakistan are pointers in this direction. In addition, Russia, after having acquired a secure foothold in the Arab world, appears set to 'fill' the 'power vacuum', that may be created by British withdrawal from east of Aden. A symbol of dread for long in Europe, she is talking peace there but is expanding her area of influence in Africa, Mediterranean and South Atlantic.

Russo-Chinese Border Clashes. In March, 1969, Damansky (Chinese Chen Pao), a small island in the frozen Ussuri River, was the scene of a serious armed clash between the frontier forces of China and the Soviet Union. Damansky island lies in the middle of the Ussuri River which runs along Soviet Siberia and Chinese Manchuria. The island is between the Soviet cities of Vladivostok and Khabarovsk. This section of the boundary was established by the Treaty of Peking of 1860. According to some estimates, China had, by 1881, lost 650,000 sq. miles of territory along Manchuria, Sinkiang and Outer Mongolia to Russia. About 350,000 sq. miles of this territory has since been returned to China. China has 9,500 miles of her border with 9 countries, of which she faces Russia across a long frontier of 7,000 miles. This includes the 2,700-mile Chinese border with Outer Mongolia, defence of which is the Russian responsibility.

Border Talks. After clashes at Damansky and elsewhere, many rounds of talks were held between China and Russia to resolve the border dispute. Though these talks remained largely deadlocked, the Soviet Union unilaterally pulled her troops 50 kilometres back from the Chinese border. China reciprocated the gesture by pulling back hers by 15 kilometres. This greatly helped lessening tension on the long border between the two countries. By Oct., 1970 relations between the two countries had improved and they had resumed full diplomatic relations by exchanging ambassadors after a break of more than three years.

India and the Soviet Maps. Maps published in the Great Soviet Encyclopaedia show large areas of Indian territory as belonging to China. While India has lodged a number of strong protests to the Soviet Union with regard to the wrong delineation of Sino-Indian border and has also discussed the matter with Moscow at the highest level, yet the Soviet Union has not committed herself to change these maps. The only assurance that has been given by her is that Russia would never support claims of third countries against India's territorial integrity and sovereignty.

Gibraltar

A town, a fortress and port of Spain, Gibraltar is a British Colony since 1704. It stands at north-west end of Rock of Gibraltar (also called one of the Pillars of Hercules) and is connected with the Spanish mainland by an isthmus. Of late Spain has been laying claim to Gibraltar on grounds of geographical contiguity and the fact that this Spanish territory was seized by Britain in 1704. In a referendum held in 1967, the Gibraltarians decided by a large majority in favour of integration with Great Britain. Disregarding the referendum, the UN Trusteeship Committee has recommended immediate negotiations between Great Britain and Spain to end the colonial status of the territory. The UN General Assembly has chided Britain for going against the wishes of the World Body in holding a referendum in the territory.

Britain

Conservatives win in Britain. In one of the great electoral upsets in modern British history, the Conservative Party won the British elections with a 43-seat margin. The Gallup and Marplan Polls had earlier predicted a Labour victory with a majority of 8 per cent. The Labour defeat was attributed to poor turn-out of voters and the rising influence of Powellism. The new Conservative Government under the Prime Ministership of Mr. Edward Heath was sworn in on 20 June, 1970.

Curbs on Commonwealth Immigration. The Conservative Government of Mr. Heath is contemplating legislation to (i) take away the right of Commonwealth citizens for permanent settlement in Britain, (ii) treat Commonwealth citizens at par with aliens and (iii) put curbs on the immigration of relatives of Asians, already settled in Britain. The British Government is also negotiating with Kenya, Uganda and Tanzania with regard to the future of about two lakh British passport holders of Indian origin.

who were required to leave those countries by the end of 1970. Britain has simultaneously requested European countries not to admit Asians travelling on British passports unless they can produce evidence that they will be allowed to enter Britain.

(d) AMERICAN AFFAIRS

U.S.A.

Wind of Change. While the basic stand on national and international issues continues to be largely upheld by the Nixon Administration, a wind of change continues to blow in the country. In the domestic field, the Administration has to face new problems. The student unrest is assuming menacing proportions. On various occasions, the students have seized school buildings, indulged in violence, refused military training and sought to sever the link between the universities and the Pentagon, American seat of the armed forces.

Important Civil Rights leaders have threatened to revive the black struggle for equality in American life. On the economic front, inflation is raising its ugly head forcing the Administration to halt or slow down its welfare programmes. The people, largely disenchanted with the American achievements in South Vietnam, find their patience wearing thin. They want a speedy end to the war but, at the same time, no appearance of defeat for the United States. Nixon's answer to this mood is the concept of Vietnamization. His decision of progressive combatant withdrawal from Vietnam under the Vietnamization programme has been applauded as a wise step towards total American disengagement in Asia. Progress in this direction is undoubtedly slow because it is not quite easy for President Nixon to disentangle himself from involvements and commitments made by earlier three Presidents—Eisenhower, Kennedy and Johnson. De Gaulle's exit from the European scene should have automatically conferred on the USA the leadership of Europe but President Nixon refuses to act as the head of European family.

The stalemate in Vietnam and West Asia and the anti-US sentiments in some Latin American countries have contributed towards mellowing of American attitude towards the communist countries. The age of Sino-American or Russo-American antagonism is, it is said, over. The U.S.A. would now cautiously but surely move towards some kind of rapprochement with Peking (may be on the basis of 'Two-China' theory). Strangely enough, it is China now that can decide when, according to an observer, "there should be a thaw" in Sino-US relationship. A disturbing factor that somewhat blurs the current US peace efforts is the Administration's reported decision to release supplies of lethal weapons and spares to Pakistan, banned in the wake of Indo-Pak conflict of 1965. The US appears to use this as a lever to wean away Pakistan from Russia and Communist China, arms from whom have of late been pouring into that country.

Nixon Doctrine. The Doctrine represents President Nixon's policies leading to gradual reduction of American overseas involvements and expenditures, and settlement of disputes by negotiation.

Under the doctrine, America will not involve herself in internal regional troubles and will gradually disengage herself from the present fighting in Indo-China. She will, however, continue to render material help to nations facing aggression. Thus Vietnamization is replacing American presence in South Vietnam. The doctrine also promises an era of negotiations and the replacement of the concept of military balance by the ideal of political balance. The United States is already seeking a meaningful dialogue with Russia and China.

Mid-Term Polls. In the U.S. mid-term elections held in early November 1970, the Democrats maintained their majority in the Senate and the Congress and also snatched a majority of the State Governorships. Some observers have described the election results as a serious setback for President Nixon who is likely to meet increasing opposition from the Senate and the Congress especially on the conduct of Vietnam war and the provision of an anti-ballistic missile system for the country. The Senate had (in May 1970) blocked funds for the Cambodian war beyond 30 June and (in July) had made prior Congressional approval obligatory for any future American military involvement in Indo-China.

My Lai (Song My) Massacre. My Lai is a small village in South Vietnam situated in the midst of the territory dominated by the Viet Cong. The Americans, whose position had been greatly menaced by the guerilla activity in that area, had suspected that the My Lai villagers were in league with the Viet Cong. On 16 March, 1968, elements of the American 11th Infantry Brigade are said to have attacked the village and mercilessly mowed down its inhabitants to the last man. About 500 men, women and children lost their lives. After an investigation, ordered by the US government, 1st Lt. William L. Calley was formally charged (under the military law) with the murder of "about 100 civilians" at My Lai. The massacre revelation greatly shocked the American conscience as it gave a rude jolt to the rest of the world. This tragedy has highlighted the "brutalizing effect" of the Vietnamese war.

The ABM Project. The Nixon Administration has decided to speedily build an anti-ballistic missile system as a "safeguard programme" against a possible Chinese or Russian attack on American cities. It ignored the press campaign describing ABM system a "project as wasteful as the pyramids". The American fears that the Chinese would soon perfect and test an ICBM (inter-continental ballistic missile) and acquire the operational capability have been largely confirmed by the Chinese launching of an earth satellite in 1970. In a couple of years they shall be in a position to launch a massive ICBM attack against the United States. The Russians, on the other hand, are feared to have developed and built up missiles carrying multiple warheads of 20 and 25 megatons each with a capacity "to destroy the American minutemen in hardened sites". In face of the two-pronged danger to the United States, the American safeguard lies, in the opinion of Nixon Administration, in the development and perfection of an anti-ballistic missile (ABM) system. Depending on US needs, the programme may have to be expanded.

Assassination of Dr. King and Robert Kennedy. Dr. Martin Luther King, the world famous pacifist leader of the American Negroes and a dedicated Civil Rights worker, was assassinated by a white man at Memphis in Tennessee (USA) on 4 April, 1968. He, according to Prime Minister Indira Gandhi, followed Mahatma Gandhi "in life and now followed him in death, sacrificing himself for a great cause". His death sparked off extensive race riots in America. The other killing that rocked America and the world was that of Robert Kennedy, younger brother of the assassinated John F. Kennedy and a strong contender for the US Presidentship. Kennedy was assassinated in a Los Angeles hotel immediately after his triumph over his rival in the California primary. The American image of a mature nation was rudely shattered by these killings.

Anguilla

Genesis of the Dispute. Anguilla was a part of the territory known as Saint Kitts-Nevis, consisting of three Caribbean Islands of St. Kitts (68 sq. miles), Nevis (36 sq. miles) and Anguilla (35 sq. miles). Discovered by Christopher Columbus in 1493, these islands were colonized by the English in the 17th century. From 1958 to 1962, the islands formed territory of the West Indies Federation. In 1967, the three islands were grouped together to form "Associated State of Antigua, St Kitts and Anguilla." The territory was internally autonomous with Britain managing its defence and foreign affairs. However, Anguilla, the bare, flat island of two villages and an air strip with a population of 6,000 declared its independence on 12 July, 1967. A local Council was formed to administer the Island. Britain did not feel compelled to intervene taking it as an internal matter of the Associated State. She, however, tried to bring the leaders of the two territories together. A British civil servant, Mr. Anthony Lee, was stationed in the island to work out a more permanent arrangement. Soon after, the island asked Britain for direct association which the latter turned down. By early 1969, Anguilla declared her independence and severed her link with Britain. In a referendum, held in February 1969, the island's population overwhelmingly voted in favour of independence. Elections were eventually ordered and new Republic was announced to be inaugurated on 8 April, 1969.

The British Government, taking action under its "residual responsibility for the Associated State's external relations", found a "legal justification" to intervene by landing on the island a 200 strong (later reinforced to 440) armed force which occupied the island on 19 March, 1969 without meeting any resistance. An interim constitutional settlement was concluded between Anguilla and Britain later including evacuation of bulk of British forces and British recognition of the island's Council. Unfortunately, this agreement was not allowed to work and instead the British Commissioner dismissed Chairman of the Council. The islanders, in retaliation, reverted to their demand of evacuation of the island by the British and complete independence.

Strategic Arms Limitation Talks (SALT)

Begun in November, 1969 at Helsinki, the Strategic Arms Limitation Talks between USA and USSR were resumed at Vienna in April, 1970 and at Helsinki in the following November. Aimed at curbing the costly nuclear missile race, the talks are strictly bilateral and secret, though both sides are keeping their allies posted with the latest developments. The importance and need of arms limitation can be gauged from the fact that each power has nuclear arsenals to completely destroy its adversary and also the rest of the world—the entire life with its structure of civilization built brick by brick during the last many thousand years. The Americans are at present working on an anti-ballistic missile system and Multiple Independently Targeted Re-entry Vehicle (MIRV). The Russians are fast perfecting the SS-9 and the three headed ICBM equipped with a 20 to 25 megaton warhead. The greatest need of the time is to freeze the nuclear capacities of the super powers and to stop the development of deadlier weapons.

Nuclear Non-Proliferation Treaty

The United Nations General Assembly gave its approval to the Nuclear Non-Proliferation Treaty on 12 June, 1968. The vote was 96 in favour and 4 against with 21 abstentions including India. The Treaty was opened for signatures on 1 July, 1968 at London, Moscow and Washington. It came into force on 5 March, 1970 when 95 nations had signed the Treaty and 50 of them including the USA, USSR and Britain had also deposited the instrument of ratification. It provides for the following :-

1. No nuclear power will transfer, directly or indirectly, nuclear weapons or nuclear explosive devices nor will it help or encourage the development of nuclear weapons by the non-nuclear powers.

2. The non-nuclear powers undertake to accept safeguards set forth in the agreement. The International Atomic Energy Agency will have the right to inspect and prevent diversion of nuclear energy from peaceful uses to the manufacture of nuclear explosive devices.

3. No fissionable material will be provided to non-nuclear States.

4. All signatories have the right to participate in the exchange of know-how and equipment for the peaceful uses of nuclear energy.

5. Potential benefits derived from the peaceful application of nuclear explosions will be made available to non-nuclear States.

6. To ensure the total absence of nuclear weapons in their respective territories, the nations will have the right to conclude regional treaties.

India has made it abundantly clear to the super powers that she would not sign the Nuclear Non-Proliferation Treaty unless they gave a concrete guarantee to her against nuclear blackmail by China. The Treaty is aimed at preventing the present non-nuclear powers from acquiring nuclear weapons without, at the same time, imposing any obligations whatsoever on those who already possess them. The Treaty is, therefore, discriminatory in character. India has, however, made sincere efforts to explain that her refusal to sign the Treaty should not be construed to mean that she is disposed towards building an atom bomb.

PERSONS IN THE NEWS

Agnew, Spiro. Till recently Governor of Maryland, Mr. Agnew has been elected Vice President of the United States of America.

Aldrin, Edwin. American astronaut of Apollo 11 who was the second person to land and walk on Moon in July, 1969.

Arafat, Yasser. The famous chief of *Al Fatah*, an anti Israel commando organization of Palestinian Arab refugees. After Nasser, he has been perhaps the most popular hero in the Arab world.

Aramburu, Gen. Pedro E. Former Argentinian President who was kidnapped in July, 1970. A decomposed body was later found in a farm-house about 400 Km. away from Buenos Aires which was believed to be the former President's.

Armstrong, Neil A. American astronaut of Apollo 11 and world's first man to land and walk on Moon on 21 July, 1969. He was in New Delhi in Nov., 1970 to receive the Gold Space Medal of the Federation Aeronautique Internationale (which had held its 63rd session in the Indian capital).

Asghar Khan, Air Marshal. A former C-in-C of Pakistan Air Force and at present leader of the newly-formed Tehrik-i-Istiqal Party of Pakistan. During 1968-69, he became famous for his opposition to Ayub regime. He also participated, along with others, in the RTC with President Ayub in Feb.-Mar., 1969. He advocates a tougher policy towards India.

Azam Khan, Lt. General. A former senior Pakistan Army Officer, Minister in the first Ayub Cabinet and later the most popular Governor of East Pakistan. As he posed a potent threat to Ayub during the early years of the first Martial Law regime, he was divested of office and retired. He returned to active politics in 1968 in opposition to President Ayub.

Badal, Parkash Singh. The present Akali Chief Minister of Punjab who succeeded former Chief Minister Gurnam Singh in March, 1970. A scion of an aristocratic family from Ferozepore, Mr. Badal courted arrest many times during the Punjabi Suba movement.

Bandodkar, Dayanand. Chief Minister of Goa who was recently removed from the presidentship of Maharashtra Gomatank Party, the State's ruling party.

Banerjee, Durba. The first woman co-pilot with the Indian Airlines.

Bhashani, Maulana. The leftist, pro-Peking leader of the East Pakistani peasantry and President of the National Awami Party. A fire-eater, he is known for his militant opposition to all the successive governments in Pakistan.

Bikram Shah, Prince Birendra Bir. Crown Prince of Nepal whose marriage to Aishwarya Rajya Lakshmi at Kathmandu in Feb., 1970 attracted world-wide attention. Many foreign dignitaries attended the celebrations.

Binh, Nguyen Thi. "Foreign Minister" in the "NLF South Vietnamese Government" and the leader of the NLF delegation to the Paris Peace Talks on South Vietnam. A woman of 41 years, she has been a leading communist worker of South Vietnam. She visited India in July, 1970.

Borlaug, Dr. Norman. American agricultural expert and seed specialist whose high-yielding wheat varieties were responsible for agricultural breakthrough in many countries in recent years. He was awarded the 1970-Nobel Peace Prize.

Borman, Frank. The 40-year old American astronaut who commanded the Apollo 8 flight to the Moon.

Brandt, Willy. Former Foreign Minister of West Germany and now that country's Chancellor. A Social Democrat, he is the former Mayor of West Berlin (1957-66). His policy of goodwill has considerably lessened tension between East and West Europe.

Brooks, Miss Angie F. Assistant Secretary of State of Liberia (Africa), who was elected President of the 24th Session of the UN General Assembly in Sept., 1969. She was the second woman to hold this honour.

Caslavska, Vera. The celebrated Czech woman athlete who won four gold medals in the 1968 Mexico Olympic Games.

Cernik, Oldrich. Former Prime Minister of Czechoslovakia (1968-70). He was one of the architects of the reformist movement in that country which suffered a setback in August, 1968 after the Warsaw Pact Powers' intervention. He has since been ousted from the government as well as the Party.

Chakravorty, Trailokya Nath. The 83-year old East Bengal revolutionary who came to India for medical treatment but passed away at Delhi in August, 1970. A prominent socialist leader, he had served many jail-terms during the days of freedom movement.

Charan Singh. A former Chief Minister of Uttar Pradesh. He is now Chairman of the Bhartiya Kranti Dal (BKD).

Charles, Prince. Eldest son of Queen Elizabeth II of Great Britain and the Duke of Edinburgh and heir to the British throne. He was recently installed as Prince of Wales.

Charu Mazumdar. Notorious pro-Peking terrorist leader who is the Chairman of the C P I. (Marxist-Leninist). He masterminded the Naxalbari insurrection of March, 1967. Charu, who has gone underground, has since been declared a "proclaimed offender".

Che Guevara, Ernesto. The Argentinian guerrilla revolutionary, shot dead by the Bolivian Army in Oct., 1967. He had been operating in the Latin American countries for some years igniting revolts and organizing guerilla activity. His war diaries are said to have been passed on to Cuba by a Bolivian Minister. Guevara, it may be recalled, had helped Castro come to power in Cuba.

Conrad, Charles. American astronaut of Apollo 12 who was the third person to walk on the Moon. He remained on the lunar surface for about 31 hours.

• **Day-Lewis, Cecil.** England's new Poet Laureate who has succeeded John Masefield on the latter's death. A prominent poet, Day-Lewis has been Professor of Poetry at Oxford and Vice President of the Royal Society of Literature.

De Gaulle, Gen. Charles. (Ref. page 298) The French legendary figure and architect of France's Fifth Republic, he died on 9 November, 1970. His funeral was attended by Prime Minister Indira Gandhi.

Devika Rani. First Lady of the Indian screen, she has been honoured with the Dada Saheb Phalke Award for 1969 (the inaugural Award) for her outstanding contribution to the cause of Indian cinema.

Devlin, Miss Bernadette. The 22-year old leader of the Catholic Civil Rights movement from Northern Ireland who won a by-election to the British Parliament in April, 1969 and was re-elected to the Parliament in June, 1970 elections. She has been sentenced to undergo imprisonment for six months for her part in the Londonderry riots.

Devi, Ratna Sari. Beautiful, Japanese born third wife of late President Sukarno of Indonesia. Exiled after the deposition of Sukarno in 1966, she was allowed into the country to see her ailing husband a few days before his death in June, 1970.

Dhillon, G.S. Speaker, Lok Sabha since 8 Aug., 1969. Elected to Lok Sabha from Punjab (Taran Taran), he has been Punjab Assembly Speaker (1954-62) and State Cabinet Minister (1965-66).

Eban, Abba. The Israeli Foreign Minister who was nominated by his govt. to represent the country at the Arab-Israeli peace talks (which had not come off till going to press).

Ering, D. Union Deputy Minister for Food and Agriculture who died at Shillong in June, 1970.

Farrow, Mia. The popular Hollywood actress who shot into news for her keen interest in Mahesh Yogi's transcendental meditation.

Faville, Miss Heather. An Indian girl attached to the Indian Pavillion at the Expo-70 in Japan, who in September was chosen as Miss Expo.

Hippies. Bare-footed, unwashed, long-haired boys and girls, generally drug addicts and roaming about throughout the world, practising free love, a pseudo oriental mysticism and living on charity. Mostly American, they have developed immense hatred for the society from which they have "dropped out". Their behaviourism appears to be a revolt against the "anonymity, the impersonality and the vulgarity of modern life", the loss of human vitality, growing social torpor, "alienation of man" and the "atomization of society".

Hsueh-Shen, Chien (b. 1912). A former Colonel in the US Air Force, he is at present Communist China's leading nuclear rocket and missile scientist. He has also been nominated as member of the Central Committee Presidium of the Communist Party of China. A brilliant scientist; his specialities were rocket

propulsion systems and atomic physics. He returned to China in 1955 and was assigned to run Communist China's missile and rocket system programme.

Jaipur, Maharaja of. The former Ruler of Jaipur State and a world-renowned polo player. He died of heart failure in London in the interval of a polo match in which he was participating.

Jennifer Hosten. Beautiful West Indies air hostess who was (in Nov., 1970) crowned Miss World at a beauty contest in London.

Karunanidhi, M. The new Chief Minister of Tamil Nadu who has succeeded late Mr. C. Annadurai. He is a prominent DMK leader.

Kennedy, Edward. Democratic Senator from Massachusetts (USA) and the youngest (and the only one living) of the three Kennedy brothers. John F. Kennedy and Robert Kennedy, the two elder brothers, were assassinated in 1963 and 1968 respectively. Like his other brothers, Edward Kennedy is a great supporter of equal rights for the American coloureds.

Khaled, Leila. Arab woman guerilla who, along with her companion, made an unsuccessful attempt to hijack an Israeli airliner at London. She was arrested but later released by the British Police.

Khaana, Mohi Chaud. A former Minister for Rehabilitation, Works, Housing and Supply (1954-67), he died on 4 June, 1970. He was defeated in the 1967 elections from the New Delhi constituency.

Khobaragade, B. D. He has been elected Deputy Chairman of the Rajya Sabha.

King, Mrs. Coretta. Widow of Dr. Martin Luther King, the celebrated Civil Rights campaigner. She came to India in January, 1969 to receive the Nehru Peace Prize, awarded posthumously to her husband.

Khera, S. S. A former Union Cabinet Secretary, he was in the news for his recently published controversial book "India's Defence Problem". The author discusses in detail the reasons for Indian reverses in NEFA and Ladakh during the Sino-Indian conflict of 1962.

Khorana, Dr. Hargobind India-born doctor, doing important research in the USA on the genetic code. He was awarded, along with two others, the 1968 Nobel Prize in Medicine. At present a naturalized US citizen, Dr. Khorana is the third Indian to have been awarded a Nobel Prize so far. He has since succeeded in creating an artificial gene. It has been hailed throughout the world as one of the greatest scientific triumphs.

Koirala, B.P. A former Prime Minister of Nepal and a prominent Congress leader of that country, he was dismissed by King Mahendra in 1960 and detained. Released in 1969 on medical grounds, he went to Europe in August, 1970 (on a certificate of identity issued by India) for medical treatment.

Krishnan, Dr. M. S. Well-known scientist and a former Director of Geological Survey of India. He died on 24 April, 1970.

Lal, Air Chief Marshal P. C. A former Chairman of the Hindustan Aeronautics Ltd., Air Chief Marshal Lal has taken over as Chief of the Air Staff from 15 July, 1969. Having joined the Indian Air Force in 1939, he saw action in Burma during World War II. He is a distinguished pilot.

Lekhi, Ramnik. The Indian TV cameraman in employment with the Columbia Broadcasting Station of America. He was sent on a filming assignment to Cambodia in May, 1970 where he was killed in an ambush.

Lon Nol, Gen. The Prime Minister of Cambodia who, in March 1970, deposed Norodom Sihanouk, the former Cambodian Head of State.

Malle, Louis. World famous French film producer whose films on India, commissioned and shown by the B.B.C., were so derogatory to India that the Indian Govt. stopped further filming in the country and asked the B.B.C. to wind up its operations in India.

Marshal, Thurgood. He is the first American Negro to be elevated as a Supreme Court Judge. Earlier, he was US Solicitor General.

Mascarenhas, Telo. Goan nationalist leader and freedom fighter who was detained by the Portuguese Government of Goa and deported to Portugal (Lisbon) from where he was released in July, 1970. He arrived in India soon after.

Mehta, Zubin. A celebrated Indian artist who has secured for himself a place among the world's greatest conductors of western music. He is at present with the Los Angeles Philharmonic as its music director.

Manekshaw, Lt. Gen. S. H. F. J. A former GOC-in-C Eastern Command, who took over as the Chief of the Army Staff from Gen. Kumaramangalam on 8 June, 1969. Born in 1914, Manekshaw was commissioned in 1934. During World War II, he saw active service in Burma (where he was wounded twice) and in Kashmir in 1948. He is the first India-trained officer to become the Army Chief.

Meir, Mrs. Golda. A former Foreign Minister of Israel and a member of the militant Zionist movement, she has succeeded late Mr. Levi Eshkol as Prime Minister of Israel.

Menon, P. Govinda. Central Minister for Law who died on 30 May, 1970.

Mujibur Rehman. The 50-year old leader of the right-wing Awami League of East Pakistan. He was involved in the Dacca Conspiracy Case allegedly aiming at secession of the East Wing from West Pakistan. The charges were, however, unconditionally withdrawn in February, 1969. His party has won an absolute majority in the Pakistan elections held in Dec. 1970.

Nag-Chaudhuri, B.D. A former Director of Saha Institute of Nuclear Physics, he is at present a Member of the Planning Commission and Scientific Adviser to the Defence Minister.

Nanda, Adm. S.M. (b. 1915). India's Chief of the Naval Staff since 28 Feb., 1970, he was educated at Karachi. He has served the Navy in various capacities. In 1962, he was appointed Dy. Chief of Naval Staff. Admiral Nanda is largely responsible for the modernization of the Indian Navy.

Nedunchezian, V. R. Education Minister in the Annadurai Ministry of Tamil Nadu. He acted as Chief Minister for a few days after the death of Mr. Annadurai and was later succeeded by Mr. Karunanidhi, the new leader of the DMK legislative party. He is at present General Secretary of the DMK Party.

Novotny, Antonin. A former President of Czechoslovakia and a die-hard Stalinist. He was ousted from the general secretaryship of the Czech Communist Party in January, 1968 and was later replaced as President by General Ludvik Svoboda.

Nur Khan, Air Marshal. Former C-in-C, Pakistan Air Force and later Governor of West Pakistan. Having resigned from governorship, he has joined Council Muslim League.

Ojukwu, Odumegwu. A Colonel in the Nigerian Army who, while serving as the Governor of the Eastern Region, declared independence and secession of the region from Nigeria in May, 1967. Biafra returned to the federation when the rebel regime collapsed in January, 1970. Ojukwu had fled the country earlier.

Onassis, Aristotle Socrates. The 64-year old Greek shipping magnate and owner of numerous islands off the Greek coast. In Oct., 1968, he married Jacqueline Kennedy, the widow of President John F. Kennedy.

Patel, Sami J. Former Manager of the London Branch of the Central Bank of India who is alleged to have defrauded the Bank of £ 1.2 million. Having remained missing for months, he was arrested in London in July, 1970 on arrival from Argentina where he had been earlier snatched by an unknown assailant.

Pathak, G.S. Vice President of India and ex-officio Chairman of Rajya Sabha since August, 1969. A distinguished jurist, he has been a Central Minister for Law and Governor of Mysore.

Pheruman, Darshan Singh. A prominent Punjab politician, formerly connected with Congress and Swatantra Party, who fasted to death for the inclusion of Chandigarh in the Punjab.

Pillai, Pattom Thanu. Famous political leader of Kerala, a freedom fighter and a Congressman, later PSP leader. He died in July, 1970.

Pompidou, Georges. The new President of France who has succeeded Gen. Charles de Gaulle. He was elected in June, 1969. Earlier, he was Prime Minister (1962-68) but was suddenly dropped by President de Gaulle after the countrywide riots by leftist elements.

Powel, Enoch. The racist, Conservative Member of the British Parliament, who appears obsessed with the "dangers of coloured immigration into Britain" and advocates the forcible repatriation of the coloured immigrants whatever the cost. Powellism was a dominant contributory factor towards Conservative victory of 1970 in Britain.

Raman, C. V. (1888-1970) *Ref. p. 288.* The eminent Indian scientist, died of heart failure on 21 Nov., 1970 at Bangalore. A Nobel laureate for his investigations into the phenomena of light and colour, he devoted his entire energy to scientific research throughout his life.

Remarque, E.M. German-born author of the famous "All Quiet on the Western Front" who died in Sept., 1970.

Ray, James Earl. The white assassin of Dr. Martin Luther King, the world famous leader of the American Negroes. He has been undergoing solitary confinement for 99 years.

Ray, Satyajit. World famous Indian film director and producer whose films **Pather Panchali** and **Apur Sansar** have won acclaim abroad.

Rogers, William P. The present US Secretary of State (in the Nixon Administration).

Samuelson, Prof. Paul. The famous American economist and teacher who won the 1970 - Nobel Prize in Economic Science.

Sangma, Capt. Williamson. The Chief Minister of Meghalaya who formed his government in April 1970.

Sanyal, Kanu. The ultra-communist, pro-China terrorist leader, who masterminded the Naxalbari uprising of 1967. Arrested in 1968, he was released by the UF Government of West Bengal in 1969. With Charu Mazumdar and others, he founded the Communist Party of India (Marxist-Leninist) on 22 April, 1969. Reported to have gone underground in April, 1970, he was arrested in August from his hide-out near Bagdogra airport in West Bengal.

Sema, Hokishe. Finance Minister in the Nagaland Government headed by Mr. T.N. Angami. Mr. Sema was elected leader of the NNO legislature Party after the elections in Feb., 1969. The new State Cabinet under his leadership was inducted into office on 22 Feb., 1969.

Shambhu Maharaj. (1907-1970). Popularly called the "Kathak King", he was one of the best exponents of this dance form. Recipient of Padmashri (1958) and Sangeet Natak Akademi Award (1955), Shambhu Maharaj had been with the Bharatiya Kala Kendra (New Delhi) for about 20 years. He died of heart ailment and cancer.

Shukla, Shyam Charan (b. 1925) The present Chief Minister of Madhya Pradesh. Son of late Pandit Ravi Shankar Shukla, he was educated at Raipur, Varanasi and Nagpur. He became Vice President of the MP Congress Committee in 1964; was elected to the State legislature in 1957, 1962 and 1967 and was a member of the Mishra Ministry of 1967. He was elected leader of the Congress legislature party in March, 1969 and became the Chief Minister.

Sihanouk, Norodom. The Cambodian Head of State who, on 18 March 1970, was deposed by the rightists led by Prime Minister Gen. Lon Nol. Norodom now heads the Cambodian Govt. in exile and is at present directing the fighting against the Nol regime from Peking.

Singh, T.N. (b. 1904). The present Chief Minister of Uttar Pradesh who was sworn in in Nov. 1970. A teacher and a journalist, he has also been a Member of the Planning Commission. He belongs to the Congress headed by Mr. Nijalingappa.

Sirhan, Sirhan Bishara. The 26-year old Jordanian emigrant to America who shot down Senator Robert Kennedy in 1968. He has been sentenced to death in the gas chamber. Mercy pleas by the Kennedy family and the Sirhan family have failed to save Sirhan's life.

Solzhenitsyn, Alexander. The celebrated Russian writer of such masterpieces as "Cancer Ward" and "The First Circle", who has been awarded the 1970-Nobel Prize for Literature. He was awarded 11 years in concentration camp and jail for "slandering Stalin" in his writings but was rehabilitated by Khrushchev. Grant of Nobel Prize to him has also met with strong disapproval from the Soviet Govt.

Tata, J. R. D. (b. 1904) Indian industrialist and philanthropist. Educated in India, France and Japan, he is the Chairman of the Tata Industries. He has also been chairman of Air India, Member, Indian Airlines and a Director of IAL.

Taylor, Mary. A young British girl who was recently arrested in the company of Naxalites near Jaduguda at tri-junction of Bihar, West Bengal and Orissa. She is reported to be in love with (or have married) a young Bengali Naxalite named Amalendu Sen.

Teja, Dr. Dharma. A former Chairman of the Jayanti Shipping Corporation who was arrested in July, 1970 at London, having arrived there on a diplomatic passport issued by the Costa Rican Govt. He is wanted in India on charges of embezzlement of Corporation funds. Earlier arrested in USA, he had jumped bail and escaped to Costa Rica. Extradition proceedings have been instituted against him in a London Court.

Tulsi, Acharya. A Jain Muni of Raipur in Madhya Pradesh who was in the news for his controversial book "Agni Priksha" containing some derogatory remarks about Sita which have offended the feelings of the Sanatanist Hindus.

Tun Abdul Razak (b. 1923) A member of the Malay nobility, Tun Abdul Razak was educated in Malaya and at the Lincoln's Inn in England. He actively participated in the anti-Japanese resistance campaign and was instrumental in initiating Tunku Abdul Rahman, 20 years his senior, into Malayan politics. Till recently Deputy Prime Minister of Malaysia as well as the Director of the all-powerful National Operations Council, formed in the wake of Malaysian race-riots in May 1969, Tun Abdul Razak is the Prime Minister of Malaya.

Tunku Abdul Rahman (b. 1903). Coming from the Royal family of the Sultan of Kedah, the Tunku was educated at Bangkok and in England. The Tunku became the Chief Minister of Malaysia after the federal elections in 1955. The Malayan federation secured its independence in 1957 and Tunku Abdul Rahman

became its Prime Minister in which capacity he continued till 22 Sept., 1970 when he resigned and was succeeded by Tun Abdul Razak.

Yahya Khan, Gen. A. M. (b. 1917). The President and Chief Martial Law Administrator of Pakistan. President Ayub handed over power to him on 25 March, 1969. On assumption of power, he abrogated the Constitution, proclaimed Martial Law and disbanded central and provincial assemblies. He had commanded a Division during the 1965 Indo-Pak War.

Zeenat Aman. The 19-year old Miss India (1970), she was selected Miss Asia at the beauty contest held at Manila in August, 1970.

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Asian Games (Asiad). *Ref. p. 427.* The 1970-Asian Games were held at Bangkok from 9 to 20 Dec. 1970. Japan with 74 gold, 47 silver and 23 bronze led the medals tally. India with 6 gold, 9 silver and 10 bronze was placed fifth. India, the Asian Hockey Champions, were denied the gold medal by sheer bad luck. In the India-Pakistan final, the Indian side gave sterling performance and dominated the game throughout but Pakistan snatched a goal in the extra time and with it the hockey crown.

Ministerial Changes in Bihar. *Reference. p. 600.* Following withdrawal of support by four of the eight parties in the ruling coalition, Mr. Daroga Rai's Ministry was voted out on 18 Dec. 1970. An SVD Ministry, headed by Mr. Karpoori Thakur was sworn in on 22 December, 1970.

Himachal Bill Passed. *Reference p. 611.* The Bill granting Himachal Pradesh the status of a full-fledged State was passed by the Lok Sabha and the Rajya Sabha. The new State was to be inaugurated shortly after.

New Chief Justice of India. On retirement of Mr. Hidayatullah on 17 Dec. 1970, Mr. Justice J.C. Shah, the senior-most Judge of the Supreme Court, was appointed the Chief Justice of India. Mr. Justice Shah too was due to retire on 22 January, 1971 on attaining the age of 65 years.

Shake-up in Poland. In a sudden political shake-up in Poland, Mr. Wladyslaw Gomulka, the Communist Party Secretary and the undisputed boss for the last 14 years, and Marshal Marian Spychalsky, Head of the State, were replaced. Mr. Josef Cyrankiewicz resigned as Prime Minister and was appointed as Head of the State. Mr. Edward Gierk has taken over as the new Party Secretary and Mr. Piotr Jaroszewicz as the new Prime Minister of Poland. These changes followed industrial unrest and bloody riots in some Polish towns as a protest against the former govt.'s policy of increasing food prices.

Lok Sabha Dissolved :— On the advice of the Prime Minister, the President dissolved the Lok Sabha on 27 Dec. 1970 and ordered fresh elections. The elections to Lok Sabha were to be held on 28 Feb. 1971.

STATE GOVERNORS, CHIEF MINISTERS LANGUAGES AND CAPITALS

(as on 28-12-70)

| State | Area in sq miles | Population in lakhs (1961 Census) | Capital | Governor | Chief Minister | Language |
|-----------------|------------------|-----------------------------------|--------------------|----------------|-----------------|-----------|
| Andhra Pradesh | 100 286 | 9 | Hyderabad | Khanolkar D | K B Reddy | Telugu |
| Assam | 47 011 | 18 | Shillong | B K Chel | M M Chidhury | Assamese |
| Bihar | 71 136 | 46.4 | Patna | N B Jha | K M Thakur | Hindi |
| Gujarat | 72 145 | 20.6 | Ahmedabad | Sharma N | H D Dhol | Gujarati |
| Haryana | 16 145 | 26 | Chandigarh | B S Chhokar | P N Lal | Hindi |
| Jammu & Kashmir | 123 000 | 59 | Srinagar | V V Sahai | G M Srin | Kashmiri |
| Kerala | 17 217 | 23 | Thiruvananthapuram | K R Narayanan | C A Varghese | Malayalam |
| Madhya Pradesh | 118 117 | 95 | Bhopal | K C Reddy | S C Shukla | Hindi |
| Maharashtra | 130 000 | 10 | Bombay | B K Nehru | V P Mehta | Marathi |
| Mizoram | 12 100 | 2.5 | Aizawl | F B Singh | C W Singh | Mizo |
| Nagaland | 6 666 | 1.7 | Kohima | B K Nehru | V K Singh | Nagamese |
| Orissa | 61 162 | 17.5 | Bhubaneswar | Satpathy B | K K Singh | Odia |
| Punjab | 21 300 | 11.4 | Chandigarh | D C Patil | Parkash S | Punjabi |
| Rajasthan | 32 150 | 7 | Jodhpur | H K Singh | V K Singh | Hindi |
| Tamil Nadu | 50 331 | 30 | Madras | S L Srinivasan | M K Karunanidhi | Tamil |
| Uttar Pradesh | 115 654 | 22 | Lucknow | B G Kher | T S Tomar | Hindi |
| West Bengal | 32 829 | 49 | Calcutta | S S Datta | T S Datta | Bengali |

* Under President's Rule

UNION TERRITORIES AND CENTRALLY ADMINISTERED AREAS

(as on 28-12-70).

| Territory | Area in sq. mi s | Population in lakhs 1961 Census | Capital | Administrator | Chief Minister |
|---|---------------------|---------------------------------------|-----------------------|----------------------------------|---|
| 1. Chandigarh | | 1.2 | Chandigarh | B.P. Bagchi, Chief Administrator | |
| 2. Delhi | 573 | 26 | Delhi | A.N. Jha, Lt. Governor | V.K. Malhotra, Chief Executive Councillor |
| 3. Himachal Pradesh** | 22,000 | 28 | Simla | K. Bahadur Singh, Lt. Governor | Y.S. Parmar |
| 4. Manipur | 8,629 | 7.8 | Imphal | D.R. Kohli, Lt. Governor | |
| 5. Tripura | 4,036 | 11 | Agartala | U.N. Sharma, Chief Commissioner | S.L. Singh |
| 6. Andaman and Nicobar | 3,215 | 0.6 | Port Blair | M. Singh, Lt. Governor | ... |
| 7. Laccadive, Minicoy and Amindivi Islands | 11 | 0.2 | Kavaratti (H.Qrs.) | C.H. Naire (Administrator) | ... |
| 8. Pondicherry | 185 | 3.6 | Pondicherry | B.D. Jatti, Lt. Governor | Farook Maricar |
| 9. Dadra, Nagar Haveli | 189 | 0.57 | Silvassa | K.G. Badlani, Administrator | ... |
| 10. Goa, Daman and Diu | 1,431 | 7 | Panjim | Nakul Sen, Lt. Governor | Dayanand Bhandodkar |

** Since given the status of a full-fledged State.

*Under President's rule.

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SUPPLEMENT to THE GENERAL KNOWLEDGE COMPENDIUM (1971)

(Covering important events up to 30 June, 1971)

THE MID-TERM PARLIAMENTARY ELECTIONS

The Congress Split and After. After the Congress split in 1969, over 50 Congress MPs, owing allegiance to the Party presided over by Mr. Nijalingappa decided to sit in opposition under the leadership of Dr. Ram Subhag Singh. This reduced the strength of the ruling Congress Party in Lok Sabha from 281 to 228 and Prime Minister Indira Gandhi's government to a minority government. Though Mrs. Gandhi now led a depleted Congress Party, she enjoyed majority support of the House as was amply demonstrated on various occasions. Some leftist parties were supporting the government but they were more as pressure groups than as parties committed to government policies. Mrs. Gandhi's government, therefore, ran a continual risk of a snap defeat if these parties had ever chosen to withdraw their support.

By the end of 1970, political and economic compulsions had created a situation in which a snap poll had become inevitable. After the fourth general election in 1967, a crisis had been created within the ruling party which did not end with the split in the Congress Party. It was, therefore, necessary to change the complexion of the ruling party to overcome resistance from inside to the radical changes. There were many other snags in the smooth functioning of the government. In April, 1970 Madhu Limaye's private bill seeking to do away with the special privileges of the ICS had fallen through in the Parliament. The Constitutional Amendment Bill, denying the Princes their purses and privileges, had failed to get parliamentary approval and a Presidential Order had to be issued to derecognize them. The Supreme Court, before which this Order was challenged, had struck it down. The first Bank Nationalization Act was similarly struck down by the Supreme Court and had to be replaced by another Act that met the Judiciary's earlier objections. It was also beginning to be realized seriously that in view of the Supreme Court's judgment in the Golak Nath case, even the new Parliament, dominated by the ruling party, could not push through socialistic policies unless the Fundamental Rights were suitably amended. Amendment of the Fundamental Rights, on the other hand, was almost impossible as the Supreme Court had declared that the Parliament was not competent to do it.

In economic terms, the situation was fast deteriorating. Deficit financing had touched the all-time high of Rs. 250 crores (as against the estimated Rs. 225 crores), prices were shooting

sky-high, growth rate had slumped, the investment in the industrial sector was tardy and unemployment was assuming dangerous proportions. It was under these circumstances that the ruling New Congress Party chose for a mid-term parliamentary election in early 1971—over a year ahead of the schedule. This was done to seek a fresh mandate from the people on major issues and to attempt remedial measures in a surer manner if the electorate returned the ruling Congress with a comfortable majority.

The Lok Sabha is Dissolved. On the recommendation of the Union Cabinet, President Giri dissolved the Lok Sabha on 27 Dec. 1970. The Presidential announcement said that the mid-term parliamentary elections would be held soon after so as the new Parliament could assemble before the end of the financial year on 31 March, 1971. Within minutes, Prime Minister Indira Gandhi was on the air to explain to the people that “in the present situation” she could not go ahead with the proclaimed programme of secular socialist policies and keep the pledges to the people who, in their backwardness and poverty, were “rightly impatient for a speedier and more resolute advance towards this goal.” The action that she took after proper deliberation was, she said, not unprecedented in a democratic set-up though it had happened in India for the first time. The government, she added, was “concerned not merely with remaining in power but with using that power to ensure a just social order for the people”. She, therefore, needed a fresh mandate from the people “with whom power in a democracy resides” to fight the reactionary political forces that were exploiting economic difficulties and thwarting implementation of progressive policies.

Political Reaction to Dissolution. Sudden dissolution of Lok Sabha and prospects of early mid-term election caught most political parties napping. Their reaction was one of bewildering confusion, extreme dismay and open irritation. Some opined it was hardly necessary to seek a fresh mandate for the particular constitutional remedies that the Prime Minister had in mind. Jana Sangh President, Atal Bihari Vajpayee felt all “constitutional propriety and democratic conventions being thrown to the winds”, Raj Narain of SSP threatened loudly to impeach the President; Prakash Vir Shastri (BKD) called it a “black day”; Atulya Ghosh was dismayed; Acharya Kripalani contested Prime Minister’s right (as heading a “minority government”) to advise dissolution of the Lok Sabha. They felt so bitter that Prime Minister Indira Gandhi’s defeat became the main theme of their election propaganda. **INDIRA HATAO, DESH BACHAO** became the war cry of the alliance parties; SSP dubbed Indira regime as “govt. of national shame, corruption, economic stagnation, price loot, disparity, famines, unemployment, poverty, smuggling and slavery to English language”. Communists called her sham socialist. A section of the press criticized the government for making capital out of its reverses at the hands of Judi-

* This did not affect the position of the Speaker who, in accordance with the second proviso to Article 94 of the Constitution, was not required to vacate office until immediately before the first meeting of the house after dissolution.

ciary and Parliament. Some opposition parties loudly demanded the dismissal of the Central Government and its replacement by an all-party government. The Indira Government, they emphasized, would use official machinery and resources for its Party's ends in the elections.

Indira Gandhi, on the other hand, became the symbol of her own party's election campaign. "A vote for the New Congress is a vote for Indira" became the most effective slogan for the masses. "Indira Gandhi", as she herself admitted, was the issue at both ends.

Parties Prepare for Poll. Shri C. Rajagopalachari, the elder statesman belonging to the Swatantra Party, advised the right-oriented opposition parties to grasp the God-sent opportunity of mid-term poll to oust Prime Minister Indira Gandhi from the citadel of power and therewith save the Constitution from systematic erosion. In spite of initial difficulties in the way of an integrated approach towards electoral adjustments mainly due to ideological differences between the Swatantra Party and the SSP, the four opposition parties namely the Old Congress, the Jana Sangh, the Swatantra Party and the SSP succeeded in forging a democratic alliance—a loose combination for purely election purposes—with a common programme largely based on the Old AICC resolution of 28 June, 1970. In a joint declaration, the four parties revealed a large measure of agreement over the allotment of constituencies. They promised to give the people a government, wedded to the cause of political, economic, social, and secular democracy and speedy economic and social progress. BKD refused to enter into an electoral adjustment at the national level though such arrangements at local level were not ruled out. A meaningful dialogue did take place between the New Congress and the PSP but no formal agreement was arrived at with regard to a formal electoral adjustment. The New Congress and the Mini-Front partners in Kerala—the CPI, the Muslim League, the RSP and the PSP—agreed to conduct their election campaign from a common platform but strictly at the local level. In Tamil Nadu, the New Congress struck a deal with the ruling DMK Party whereby the former agreed to leave the State Assembly field for the latter in return for 10 Lok Sabha seats including that of Pondicherry.

The New Congress fielded about 440 candidates, thereby leaving 75 seats for such parties as the CPI, the PSP, the DMK, the Republican Party and the Muslim Majlis. The CPI put up 80 candidates, including its candidates in West Bengal where it had no understanding with the New Congress; the PSP contested 50 seats and the DMK-led front 29 (in Tamil Nadu). The four party alliance had agreed on the distribution of about 450 seats; on 70 others, there were two or more front candidates fighting against each other. In the ultimate analysis, these parties put up candidates as follows: Old Congress: 238; Jana Sangh: 156; Swatantra: 59 and SSP: 91. The CPI (M) was the only national party which did not have a poll adjustment with any of the other seven national political parties.

the 18 States and all the Union Territories rejected the Old Congress which now forfeited even the status of an official opposition party in the Lok Sabha. The 16 seats it won were in Gujarat (11), Bihar (3), Uttar Pradesh (1) and Tamil Nadu (1). Its complete rout in Mysore, where it had its own Ministry, and in UP where it headed the SVD government, was most dismal. The only win it had south of Vindayas was that of Kamaraj in Tamil Nadu. The notable win from Gujarat was that of Morarji Desai.

Other parties fared no better. CPI could just retain its 23 seats and CPM increased its strength from 19 in 1967 to 25 in 1971. This hardly added to their political stature. SSP and PSP were almost routed. Akalis with just one seat were nowhere. The lone BKD seat was from UP (Aligarh). Jana Sangh reduced its strength from 35 in 1967 to 22 in 1971. It drew blank in Delhi (against 6 out of 7 seats in 1967), Punjab, Himachal Pradesh, J & K and South of Vindayas. Swatantra's strength reduced from 44 to just 8. The DMK and Telengana Praja Samity respectively won 23 and 10 seats in Tamil Nadu and Andhra. Prominent among those defeated were: Messrs. Balraj Madhok (a former Jana Sangh President), Dr. Ram Subhag Singh, Mrs. Tarakeshwari Sinha, N. Sanjeeva Reddy, Atulya Ghosh, S.K. Patil, Madhu Limaye, Hem Barua, Prof. N.G. Ranga, George Fernandez, S.N. Dwivedy, Rabi Ray, Mrs. Aruna Asaf Ali, M.R. Masani, Kamalnayan Bajaj, Naval Tata, Charan Singh (BKD), M.L. Sondhi, K.L. Gupta, Maharani of Patiala and Nawab of Pataudi.

Post-Election Reactions. Prime Minister Indira Gandhi's phenomenal victory sent other political parties reeling to their foundations. "Democracy has been fatally wounded by this unscrupulously hustled mid-term election" cried Rajaji from Madras. "It is a triumph of the Indira cult, assiduously built up during the last one and a half year" was the reaction of Jana Sangh which also complained of "uninhibited use of governmental media of mass communication and gross misuse of official machinery and the immense money power by the ruling party". Balraj Madhok, who fought and lost from a Delhi constituency, alleged that the ruling party had used invisible ink and chemicals to defeat the opposition candidates. The New Congress reaction was one of quiet satisfaction. "People are no longer guided by the elite and have their own views" summed up C. Subramaniam of the New Congress, adding "the anti-Indira posture is not liked by the large masses of the people. That has been cause of the downfall of the opposition". INDIRA HATAO campaign thus boomeranged completely on its perpetrators.

THE NEW GOVERNMENT

Mrs. Indira Gandhi was unanimously elected leader of the 352-member New Congress Party in Lok Sabha on 17 March. Later in the evening, President V.V. Giri invited her to form the government. A 36-member Cabinet, headed by Mrs. Indira Gandhi, was sworn in on 18 March. Mr. C. Subramaniam was appointed Minister for Planning on 14 April. The Ministry was expanded in May when a number of new Ministers were appointed.

• Following is a complete list of Ministries and their portfolios :—

| Ministry | Cabinet Minister | Minister of State | Deputy Minister |
|---|--------------------------------------|--|--|
| Home Affairs, Information & Broadcasting, Atomic Energy | Mrs. Indira Gandhi Prime Minister | R. N. Malhotra (Home) K. C. Pant (Home & A. M. Affairs) Mrs. J. J. Sanyal (I&B) | J. H. Mohsin (Home) Dharamvir Singh (I&B) |
| Agriculture | Iqbaluddin Ali Ahmed | Prof. Sher Singh Annis Telp Singh | J. Narain P. H. D. Singh |
| Finance | Y. B. Chavan | K. R. Ganesha | Sushil R. D. Singh |
| Defence | Jagjit Singh | V. C. Shukla | - |
| External Affairs | Swaran Singh | - | S. S. P. Singh |
| Railways | K. Hanumanth Rao | - | M. H. Sh. Qureshi |
| Tourism and Civil Aviation | Dr. K. R. Singh | Dr. S. S. M. M. M. | - |
| Shipping & Transport, Parliamentary Affairs | Ra. Bahadur | Om. Mehta | B. Shankar Singh (P. A.) K. S. Nath Singh (P. A.) |
| Industrial Development | M. H. H. Chaudhary | G. H. H. Oza | S. H. S. P. Singh |
| Education & Social Welfare Deptt. of Culture | S. H. S. P. Singh | - | K. S. R. Singh D. P. Yadav |
| Law & Justice | H. R. G. G. G. | S. H. S. P. Singh Chaudhary | - |
| Steel and Mines | S. M. H. K. M. M. | S. H. S. P. Singh | - |
| Health and Family Planning | U. M. S. D. D. | Prof. D. P. Ch. S. P. Singh | A. K. K. Singh |
| Planning, Science & Technology | C. S. S. S. S. | M. H. D. S. S. | - |
| Works and Housing | U. M. S. D. D. | J. K. G. G. G. | - |
| Irrigation & Power | - | K. I. R. R. R. | B. H. S. S. S. |
| Foreign Trade | - | I. N. M. S. S. | A. C. G. G. G. |
| Labour, Employment & Rehabilitation | - | R. K. K. K. K. | B. G. V. S. S. |
| Company Affairs | - | K. V. R. S. S. | B. D. S. S. S. |
| Supply | -- | D. R. C. S. S. | - |
| Petroleum & Chemicals | -- | P. C. S. S. | D. S. S. S. |
| Communications | -- | H. N. B. S. S. | K. S. S. S. |

Fifth Parliament meets. The joint session of the Fifth Parliament was inaugurated by President V.V. Giri on 23 March. Addressing the MPs, the President reiterated his government's pledge to abolish poverty and to achieve social and economic transformation. Other important features of his address were : (i) a mid-term reappraisal of the Five-Year Plan would be made ; (ii) a crash programme of rural works and provision of basic necessities would be launched to create avenues of employment ; (iii) Land reforms would be executed to ensure more equitable agrarian structure ; (iv) production of foodgrains will be raised to 105-million tons in 1971-72 ; (v) the government still adhered to the abolition of privy purses ; and (vi) foreign policy of non-alignment would continually be pursued.

Speaker, Deputy Speaker elected. Sardar Gurdial Singh Dhillion (Punjab) and Mr. G.G. Swell were elected Speaker and Deputy Speaker respectively of the Lok Sabha.

ELECTIONS IN THE STATES

Elections were held for three State Assemblies—those of Orissa, Tamil Nadu and West Bengal—simultaneously with Lok Sabha. The Swatantra-Jana Congress Ministry, in Orissa, headed by Mr. R.N. Singh Deo, resigned in January, 1971 and the Assembly was dissolved. After the March elections, a UF Ministry under the leadership of Mr. Biswanath Das was sworn in on 3 April. In Tamil Nadu, the DMK was returned to power with a stupendous win of 184 seats in a house of 234. A 16-man DMK Ministry under the chief ministership of M. Karunanidhi took office on 15 March. In the West Bengal elections, no party secured an absolute majority or came near it. CPM with 111 seats and the New Congress with 105 were the top scorers. After a good deal of negotiations, a Democratic Coalition Government under the leadership of Mr. Ajoy Mukherji took office on 2 April but resigned on 28 June, when faced with factionalism within the ranks of its constituent parties.

Developments in other States. Due to large-scale defections, the governments in Bihar, Uttar Pradesh, Gujarat, Mysore and Punjab were toppled. In Bihar, an alternative coalition government of New Congress, CPI, PSP and Soshit Dal was installed in June. The T.N. Singh SVD Ministry of Uttar Pradesh was succeeded by the New Congress Ministry headed by Kamalapati Tripathy on 4 April. After the exit of Old Congress governments in Mysore and Gujarat and the Akali government in the Punjab, the State Assemblies were dissolved. Mid-term elections in these States are expected to be held by the year-end.

Himachal Pradesh has been raised to a full-fledged State. It will be the 18th State of the Indian Union.

ECONOMIC AFFAIRS

The Railway Budget (1971-72). Mr. K. Hanumanthaiya, the new Railway Minister, presented the Railway Budget for 1971-72 to the Parliament on 24 May. Gross traffic receipts for the year are estimated at Rs. 1,044 crores—Rs. 40 crores higher than last year—and the revenue expenditure at Rs. 903.35 crores,

thus leaving a revenue surplus of Rs. 140.65 crores. After paying a dividend of Rs. 173.77 crores to the general revenues, net shortfall amounts to Rs 33.12 crores. To offset the deficit partially, increases in railway freights and fare rates totalling Rs 26.25 crores (thus bringing up the revenue to Rs 1,070.25 crores) were announced by the Railway Minister. The remaining deficit of Rs. 6.87 crores has been left uncovered. As a result of shortfall in revenues, the Railway Plan had to be slashed down from Rs. 1,525 crores to Rs. 1,275 crores.

The Union Budget (1971-72) Mr. Y.B. Chavan, the new Finance Minister, presented his first budget to the Parliament on 28 May. Revenue receipts for the year 1971-72 are estimated at Rs 3,562 crores and expenditure at Rs 3,557 crores leaving a deficit of Rs. 25 crores on revenue account. Total receipts on capital account are placed at Rs 2,024 crores and expenditure at Rs 2,396 crores the deficit being of the order of Rs 372 crores on capital account. The total budgetary deficit is, therefore, determined at Rs 397 crores. Mr Chavan has proposed to reduce this deficit to Rs 220 crores by means of levying additional taxation of Rs 177 crores, of which indirect taxation will account for Rs 132 crores. The following table gives a clear picture of the Budget:-

Budget At A Glance

| | (Rs Crores) | |
|-------------------------------|------------------------------|-------------------|
| | 1970-71 Revised estimates | 1971-72 Budget |
| Revenue receipts | 4 146 | 4 632* |
| Less States share | 755 | 893 |
| Net Centre's revenue receipts | 3 391 | 3 739 |
| Capital receipts | 2 105 | 2 024 |
| Total Centre's receipts | 5,496 | 5 763 |
| Revenue expenditure | 3 193 | 3 587 |
| Capital expenditure | 2 533 | 2 396 |
| Total expenditure | 5,726 | 5 983 |
| Overall deficit | 230 | 220 |

*(Includes additional taxation of Rs 220 crores.)

The Plan expenditure for the current year has been stepped up to Rs 2 368 crores. The net increase in the expenditure met from the Central Budget is of Rs 131 crores. The assistance for the State Plans has accordingly gone up by Rs 65 crores. A tentative provision of Rs 60 crores has been made to provide relief to the refugees from Bangla Desh. A sum of Rs 50 crores will be spent to finance crash programme for rural employment.

Fresh Levies. It is proposed to levy additional taxation worth Rs 220 crores, of which centre's share amounts to Rs 177 crores. Some important levies are as follows: Additional excise duties on medium and fine textiles, increased duty on petrol by Rs. 200 per kilolitre—20 Paise per litre, extra duty on mineral turpentine oil and liquid petroleum gas, progressive levies on cigarettes, 10% *ad valorem* duty on agricultural tractors, additional duty on soaps, foam sponges, corks, gases, glass, coolers,

flasks, cosmetics and luxuries, imported farm implements, imported automobile components and dry fruits, upward revision of postal tariffs, 20 per cent *ad valorem* levy on all foreign travel tickets purchased in rupees, 30 per cent duty on imported tractors, upward revision of income tax for incomes beyond Rs. 15,000, levy of wealth tax on wealth beyond Rs. one lakh, increased tax on capital goods etc. etc.

The most important concession announced is that no income tax would be levied on those who earn up to Rs. 6,000 annually provided they save at least Rs. 400 in the shape of insurance, provident fund contributions etc. etc.

Exports and Imports. The exports increased from Rs. 1413 crores in 1969-70 to Rs. 1530 crores in 1970-71, registering an increase of over 8.5 per cent. Total imports during the period were Rs. 1627.52 crores. During 1971-72, the exports are expected to increase by 10 per cent thus completely wiping out the trade deficit.

Population. According to provisional figures released by the Census Commissioner, India's population stood at 547 million—283 million males and 264 million females. Uttar Pradesh continues to be the most populous State in the country with 88.29 million people and Kerala most densely populated with 548 persons per sq. km. 70 per cent of the population continues to be illiterate.

Republic Day Awards (1971). A total of 129 persons were conferred the Republic Day Awards 6 received Padma Vibhushan, 41 Padma Bhushan and 82 Padma Shri. Those who received Padma Vibhushan were: Ustad Allauddin Khan (musician), B. Sivaraman (formerly Cabinet Secretary), B.P. Chaliha (former Chief Minister, Assam), Mrs. Sumati Morarjee (shipping magnate), Uday Shankar (dancer) and Dr. V.N. Shirodkar (gynaecologist).

PAKISTAN

Indian Airlines Plane Hijacked. A Fokker Friendship plane of the Indian Airlines with 28 passengers and crew of four on board, while on a shuttle service from Srinagar to Jammu, was hijacked to Lahore on 30 January, 1971. The airliner was circling over Jammu for landing when the two hijackers, Mohd. Hashem Qureshi (20), and Mohd Ashraf (21), believed to be the members of Kashmir's secessionist secret organization "Al Fatah", forced the pilot Capt. K.K. Kachru at gun point to fly to Lahore. The whole operation—the first air piracy in the sub-continent was executed with finesse, comparable to the artistry and cunning strategy of West Asian hijackers. At Lahore, the hijackers were lionized as heroes and were granted asylum. The passengers and the crew were removed to the city for repatriation but the hijackers refused to leave the plane and threatened to dynamite it unless their demands (including freedom for Kashmir) were conceded by India. The following day, Z.A. Bhutto met them in the plane. Islamabad kept vacillating about the return of the plane on one pretext or the other but the passengers and the crew were

allowed to return to India by road via Hussainiwala (Ferozepore). The plane was blown up by the pirates on 2 Feb. in full view of thousands of people, the police and the Army. The event was televised by Radio Pakistan.

India now acted quickly. She cancelled Pakistani military and civil overflights across Indian territory, simultaneously suspending Indian overflights across Pakistan. She expressed extreme displeasure over the blasting of the Indian airliner with Pak govt. connivance and demanded compensation for the plane and its cargo as also the repatriation of the air pirates. Pakistan, however, refused to return the hijackers, who, she maintained, were Kashmiris and not Indian nationals. It also came to light that the hijackers were connected with *Al Fatah*, a subversive coordinate in Kashmir valley of the POK-based National Liberation Front headed by one Maqbool Ahmed Butt, himself a fugitive from justice. Hijacking was planned about a year earlier and Qureshi and Ashraf were thoroughly trained before being planted in the Kashmir valley for the hijacking.

In Pakistan, Sheikh Mujibur Rahman, the prominent East Bengal leader, was perhaps the lone politician who condemned this act of piracy and called for a thorough investigation. The incident was critically commented upon throughout the world as it violated the principles of Chicago, Tokyo and the Hague Conventions. While evading the issue proper, Pakistan unashamedly demanded compensation from India for her weekly loss of Rs. 35 lakhs (Rs. 20 crores a year) for the suspension of her East Bengal-bound overflights across India and their consequent re-routing via Ceylon. Pakistan provided an eye-wash months later when she arrested the NLF Chief Maqbool Ahmed Butt (who appeared at loggerheads with POK President) and instituted an enquiry into the hijacking incident. The enquiry's findings were laughable; these dramatically revealed that skyjacking was cleverly planned and executed by India with the mischievous intent to ban Pakistani overflights across the country.

Political Stalemate

The first ever Pakistan general election, held on adult franchise, saw the East Bengal Awami League at the top with 167 of 313 Parliamentary and 268 of 279 Assembly seats. Sheikh Mujibur Rahman, architect of this glorious victory and the unquestioned spokesman of the Bengali majority, was openly described by President Yahya Khan as the future Prime Minister of Pakistan. Yahya had in 1969 stipulated that the National Assembly would be given 120 days to frame a Constitution failing which the body would be dissolved. It indirectly meant that important parties should work out beforehand a consensus on basic constitutional provisions. This was almost impossible under the prevailing conditions. In East Bengal, Mujib refused to resile from the six-point programme which, he stressed, was not negotiable. He asserted his right of majority to form a govt. of his own as also to frame a Constitution after the 6-point programme. Bhashani even encouraged him to fight for East Bengal's freedom as constitution-making was an exercise in futility. Bhutto, in the West,

fretted and fumed and refused to sit in opposition. He declared that without West Pakistan's cooperation and consent no Constitution could be prepared. At the Mujib-Bhutto exploratory talks, which were abortive, the former refused to accept West Pakistan's right to share power and have a say in constitution-making. To Bhutto's discomfiture, some small parties of West Pakistan decided to support Mujib's 6-point programme. The situation was further complicated by revival of autonomy demand in Punjab, Sind, NWFP and Baluchistan. The Army, on the other hand, feared that the Mujib-dominated regime would not countenance spending of two-third of nation's budget on armed forces. It was at this time that Bhutto, allegedly at the behest of a powerful section of the Punjabi-dominated Army, introduced the element of anti-Indianism to help consolidate West Pakistan against the monolithic unity of East Pakistan. Hijacking of an Indian airliner to Lahore was the practical outcome of this policy.

Civil Disobedience. While the politicians were indulging in a war of words, Yahya Khan convened the Assembly on 3 March. He turned the tables on parties again by rescinding this order soon after. East Bengal was now aflame and street crowds demanded of Mujib to declare independence. The Army shot down over 100 persons in encounters with protesting mobs. Seriousness of situation forced Yahya to reconvene the Assembly on 25 March. Mujib conditionally agreed to attend the reconvened Assembly - the conditions being the end of repressive measures, removal of Army to barracks, restoration of civil administration, release of political workers and compensation to the families of those who were massacred by the Army. Having failed to evoke a response in the ruling circles, he launched the civil disobedience movement. As leader of the elected majority, he virtually took over all authority in East Bengal. Yahya replied by replacing Governor Ahsan by General Tikka Khan who was considered "tough". But Mujib's hold on East Bengal was complete. No High Court Judge would swear the new Governor in. Officers and staff of East Bengal Secretariat refused to take orders from the military regime; police appeared conspicuously defiant; East Bengal Regiment and East Pakistan Rifles refused to shoot Bengalis on orders from the military authorities. Mujib's writ ran throughout East Bengal; the whole Bengali nation obeyed him. Caught between the devil and the deep sea, Yahya reached Dacca on 15 March ostensibly to intercede with Mujib but in fact, as later events proved, to personally supervise the arrangements for world's worst butchery for political non-conformity.

Point of No Return. What Yahya Khan saw in Dacca was astounding. Mujib had complete hold over civil administration; a "cabinet" of his party workers, labour leaders, students and Dacca University professors ran the affairs of the State. Army was confined to cantonments. Yahya and Mujib parleyed for a couple of days when Bhutto was summoned from Karachi to join the talks. Mujib was ready to negotiate but only on mechanics of transfer of power. The proposals discussed included (i) the one to call for

a meeting of the elected members of the two wings separately and hand over power to Mujibur Rahman in East Bengal and to Bhutto in West Pakistan and (ii) formation of a Central government with Mujib as Prime Minister and Bhutto as Deputy Prime Minister. By 24 March, it was widely publicized that an agreement had been reached and would be soon announced.

The negotiations were however, a ruse. President Yahya Khan needed time to plan and put into practice the long-awaited and often-postponed military operation. On 25 March Mujib was informed that Yahya Khan had suddenly abandoned talks and left for West Pakistan. Radio Dacca (under Munib) and Radio Pakistan gave different versions for the future of negotiations. Simultaneously the Army cracked down on the rebellious elements, put Dacca Radio out of commission, dismissed police and East Bengali personnel in Army and militia, attacked Dacca University and cruelly gunned down hundreds of students, scholars and professors sparing none not even girl students. Heaps of corpses littered the road leading to the University. Channhez Khan had been put to shame.

The War. By 20 March two extra Army divisions had been moved from West Pakistan to East Bengal and positioned at strategic points. President Yahya Khan, who personally supervised induction of forces and hardware, was simultaneously keeping Mujib at bay by prolonging negotiations with him. The Army launched its war against the Bengalis on 25 March. Strict censorship was imposed and all foreign correspondents were expelled. The Capital city of Dacca bore the brunt of Army killings for the first three days when thousands of Bengalis—men, women and children both Muslim and non-Muslim—were mercilessly shot by the blood-thirsty hordes of Yahya Khan. Bengali houses, shops, huts or other belongings were burnt or looted. The killings soon travelled to Chittagong, Comilla, Jessore, Sylhet, Dinipur, Chuadanga, Rajshahi, Khulna and other towns which were, at the start of hostilities or a little later, dominated by the Mukti Fauj. The Mukti Fauj consisted of the Bengali personnel of East Bengal Regiment, East Pakistan Rifles, Ansar, the police and the Awami League cadres comprising mainly the young students.

The Pakistan Army, from the very start, operated to achieve three objectives namely (i) to break the back of resistance and people's will to fight by calculated, large-scale massacre of Bengalis and destruction of defenceless villages by napalms and aerial bombardment, (ii) to fan out to border posts and re-establish authority in border areas. With the three ports securely held by Pak forces, the whole border should be sealed thus denying the freedom fighters escape to or contact with the neighbouring Indian States; and (iii) to recapture the interior and re-establish control and administration by the military authorities. After about three months of costly fighting, the Army had seized control of all important strategic towns, communication centres and some border posts. Having run short of arms and ammunition and logistic support, the freedom fighters have now turned to guerilla

warfare, continually destroying bridges and communication lines, encouraging people to resist the Yahya gangsters and harassing and selectively killing Pak Army personnel in ambushes. Pakistan has already suffered 10,000 personnel killed which is about 10 per cent of the Army in East Bengal. The war costs the Pak exchequer Rs. 1.5 crores a day. The interior is still firmly in the hands of *Mukti Fauj*. Pak revenue collection and other functions of administration have ceased to exist.

Birth of a Nation—"Bangla Desh". "Pakistan is now dead and buried under a mountain of corpses. Yahya Khan's genocide serves only as the last act in the tragic history of Pakistan which he has chosen to write with the blood of Bangla Desh...Bangla Desh is a reality sustained by the indestructible will and courage of 75 million Bengalis who are daily nurturing the roots of this new nation with their blood. No power on earth can unmake this new nation and sooner or later both big and small powers will have to accept it into the world fraternity"—with these words of Vice President Syed Nazrul Islam, the People's Republic of Bangla Desh was formed at a modest but solemn ceremony on 17 April in a mango grove at Mujibnagar in the Kushtia District of Bangla Desh. Presidency of the Republic has been kept vacant for the Bangabandhu Mujibur Rahman who is at present in Army custody. All affairs of the State are conducted in his name. The Council of Ministers of Bangla Desh includes Tajuddin Ahmed (Prime Minister); Khondkar Mushtaque Ahmed (Foreign Minister), Captain Mansur Ali and A. H. Kamruzzaman (Ministers). Colonel Usmani, a retired officer of the Pak Army, was appointed Commander-in-Chief of Bangla Desh Army. Bangla Desh has an area of 1,43,797 sq. kms. and a population of 75 million. It is a fertile deltaic region. Its economic, political and military viability has never been in doubt. Over 90 per cent of the area is still under the independent Bangla Desh Government. All political forces including Maulana Bhashani have cast their lot with the Bangla Desh. Pakistan Government has been feverishly trying to build up a facade of a representative government there with the help of a few quislings but so far it has failed to pick up any. All prominent Bengali politicians approached with this offer have refused to cooperate.

Bengali personnel of Pakistani diplomatic corps and Armed Forces have defected in large numbers to the Bangla Desh Government. Two Bengali diplomats in New Delhi—Messrs. K M. Shehabuddin and Amjadul Haque—sought asylum in India on 6 April. Mr. Hossain Ali, former Pak Deputy High Commissioner at Calcutta and fifty other East Bengali personnel now function as Bangla Desh Mission in India. Mr. Mohd Ali, Pak Vice-Consul in New York, switched over allegiance to Bangla Desh and now heads a Mission there. Mr. Abu Sayed Chowdhury, a Judge of the Dacca High Court, has been active in the UNO as Bangla Desh representative, pleading for early recognition and much-needed arms assistance. Official Bangla Desh Radio has been installed; necessary infra-structure for administration, revenue collection and maintenance of law and order is being devised in the liberated areas.

Genocide of Bengalis. "Life seems so cheap that a few corpses lying here and there do not matter. The silence of the grave appears to have descended upon the town that was once called the Queen of Cities"—thus wrote a Japanese correspondent about Dacca. The main targets of Army's brutal massacre were the students, professors and intelligentsia whom the Army feared, would make up in future the front ranks of the freedom fighters. By liquidating these elements in political and cultural nerve-centres, Army's objective was to render Bangla Desh barren, intellectually, culturally and politically. A devastated, leaderless East Bengal would, it was hoped, look to West Pakistan for inspiration and guidance. The common man was not spared either. Hundreds of villages were bombed and strafed in a mad frenzy, decimating their populations without regard to human values, compassion or religious considerations. Hindus were systematically killed as the brain behind the rebellion. Muslims suffered a similar fate at the hands of fellow Muslims in this Islamic Republic of Pakistan. The Army enacted a hundred 'My Lies' everyday in East Bengal. The result was an unprecedented exodus of East Bengalis to India.

The Refugees. Till 30 June, over 6 million starving emaciated East Bengalis had entered India in appalling conditions of health. This scared humanity had to be accommodated in India in improvised refugee camps in the border areas. In Tripura and Manipur, the refugees equalled the total populations of these territories. Maintenance of these refugees has been enormous; it may run into an astronomical figure of Rs. 600 crores a year. Relief from various international institutions and nations is pouring in but is like a drop in the ocean. India is, therefore, pleading with world nations to exert pressure on Pakistan to create conditions in Bangla Desh that may help these refugees to return to their country. Pakistan, according to latest reports, has confiscated properties of those (particularly the Hindus) who have temporarily migrated to India.

National Assembly Divested of Constitution making. By an announcement on 28 June, President Yahya Khan divested the National Assembly of its power to frame a Constitution and instead appointed a committee of experts to prepare a constitutional document which would be approved by the National Assembly. Other important features of the Presidential statement were (i) Awami League members of National and Provincial Assemblies stood disqualified (unless they dissociated themselves with Mujibur Rahman) and their vacancies will be filled by by-elections; (ii) martial law will continue even after restoration of democratic rule; and (iii) limited autonomy could be provided within the framework of a strong Centre, governed by the ideology that attended the creation of Pakistan.

The World Opinion. While the world press has started playing up Pak genocidal activity in Bangla Desh, most world governments wear stony silence. Never before was the world conscience so moribund over proved genocide on such a large scale as this. President Podgorny of USSR did send a message of concern to Yahya but follow-up action is still awaited. In spite

of some parliamentary and political groups' crusade 'against Pak Military regime, the British and American governments have largely sympathized with Pakistan over her troubles and have refused to be persuaded to stop economic and military aids to Pakistan. Some East European nations have expressed their concern. Leftist Arabs are non-committal; rightist ones have openly sided with Pakistan and financed the latter's arms purchases abroad. Countries like Iran and Turkey have sided with Pakistan while Burma, Ceylon, Indonesia, Japan, Korea etc. have ignored the tragedy. China is all out on Pakistani side and has supplied equipment for Pakistan's newly raised army divisions. Africa is unmoved; Israel is ready to help if approached by Bangla Desh.

Pakistan Army's atrocities on East Bengalis and the massive exodus of the latter to India have created a situation of confrontation in the Indian sub-continent. Islamabad is working hard to turn East Bengal tragedy into an Indo-Pak dispute. The two countries have already closed their diplomatic missions in Dacca and Calcutta but due to Pakistani intransigent attitude, the staffs of the missions have not been allowed to leave for their respective countries.

SPORTS (1971)

| <i>Trophy/Cup</i> | <i>Won by</i> | <i>Runners up</i> |
|---|-------------------------|--------------------------|
| Bombay Gold Cup (Hockey) | Services | Mohun Bagan |
| Brighton Cup (Hockey) | Mohun Bagan and BSF-- | Joint winners |
| Agha Khan (Hockey) | Indian Airlines | Indian Navy |
| Rene Frank Trophy (Hockey) | BSF | Bombay |
| Rangaswamy Cup (Hockey) | Punjab | Bombay |
| Santosh Trophy (Football) | Bengal | Railways |
| Rovers Cup (Football) | Mohun Bagan | Mahindra & Mahindra. |
| Durand Cup (Football) | East Bengal | Mohun Bagan |
| Ranji Trophy (Cricket) | Bombay | Maharashtra |
| Duleep Trophy (Cricket) | South Zone | East Zone |
| India-West Indies Series (Cricket: played in W. Indies) | India | West Indies |
| England-Australia Series (Cricket : played in England) | England (Won the Ashes) | Australia |
| World Championship (T.T.) | China | Japan |
| National Championship (Tennis) | Jaideep Mukherjee | Premjit Lal |
| National Championship (Badminton) | Suresh Goel | Dipu Ghosh |
| World Heavyweight Boxing Championship | Joe Frazier | Cassius Clay (Mohd. Ali) |
| Azad Trophy (University sports --1969-70) | Punjab University | Delhi University |
| National Championship (Volleyball) | Punjab (Men's) | Services |

